U. S. DEPARTMENT OF THE INTERIOR
PROTOTYPE OIL SHALE LEASING PROGRAM

OIL SHALE TRACT C-b ENVIRONMENTAL MONITORING REPORT

(June 1984 through November 1984)

Submitted to:

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By:

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TENNECO SHALE OIL COMPANY
OCCIDENTAL OIL SHALE, INC.

January 31, 1985

INTRODUCTION

Regular environmental reporting for Oil Shale Tract C-b during the interim monitoring period consists of six-month data reports submitted February 15, 1983, July 15, 1983, January 15, 1984, July 15, 1984 and January 31, 1985. Limited data analyses are included in the February 15, 1983 and January 15, 1984 reports.

The Interim Monitoring Program was initiated in March 1982. The data reported here fulfill the environmental monitoring requirements specified for the interim monitoring period by the OSPO. Data are reported for the period of June 1984 to November 1984. Any errors found in previously reported data appear in the Data Corrections section.

Data not previously reported for dates prior to this report period are presented in the Supplemental Data Sections for meteorology, air quality, hydrology and lab analyses.

Each volume contains the following:

Volume I	Tract Photography, Hydrology and Water Quality
Volume II	Air Quality and Meteorology, Noise
Volume III	Biology, Miscellaneous Minor Programs

VOLUME I

TABLE OF CONTENTS

DEVELOPMENT MONITORING PROGRAMS

1.0 Environmental Monitoring Program

The Development Monitoring Program was discontinued in March 1982 and replaced with an Interim Monitoring Program during a period of reduced site activity at the C-b Tract. Each section will specify changes made to the monitoring program.

TRACT PHOTOGRAPHY

1.1 Tract Photography

Surface and aerial photography programs were discontinued during the interim monitoring period. They will be reinitiated when Tract activities start up.

1.2 Hydrology and Water Quality

To assist in interpretation of hydrologic and water quality data, the reader must understand that two items in particular may affect monitoring program results: intentional flooding of the V/E shaft and water management practices. The V/E shaft was allowed to flood in September 1981; water levels have reached the equilibrium level shown in Figure 1.2.1.6-1. Direct discharge from Ponds A/B into Piceance Creek via East No Name Gulch was utilized to dispose of excess mine water from the Production and Service Shafts.

Hydrologic and water quality monitoring frequency and laboratory analysis requirements vary by type and location of sample collection station. The requirements from government agencies also vary regarding purpose of monitoring. Tract C-b monitoring requirements have been derived from the following documents:

IMP - Interim Monitoring Program prepared for the Oil Shale Project Office (OSPO).

WAP - Water Augmentation Plan prepared for the State of Colorado Water Court, Division 5.

NPDES - National Pollutant Discharge Elimination System (NPDES) monthly report prepared for the State of Colorado Water Quality Control Division.

Hydrologic data for surface streams through September 1984 are presented in Section 1.2.1.1; associated water quality appears in Section 1.2.2.1.

Hydrologic data for springs and seeps through November 1984 appear in Section 1.2.1.2; associated water quality appears in Section 1.2.2.2.

Hydrologic data for alluvial and bedrock wells from June 1984 through November 1984 appear in Sections 1.2.1.3 and 1.2.1.4 respectively; water quality data appear in Sections 1.2.2.3 and 1.2.2.4 respectively.

As a matter of convenience, field measurements of temperature, pH and specific conductance are tabulated for springs and seeps in Section 1.2.1 along with flows or levels data. Also as a convenience, summary Table 1.2-1 contains water monitoring requirements by station designation including sample frequencies of levels or flows and water quality. This table replaced Exhibit B, which displayed monitoring requirements for the WAP during development on C-b Tract. Within each sub-section of Water Quality Section 1.2.2, the required frequency is explained and parameters listed for analyses during the Interim Monitoring Program (IMP). For convenience, Table 1.2-2 lists an index of deep wells sampled in and around C-b Tract with associated page numbers locating levels data, time series plots of levels, and water quality for each well by aquifer or zone and location.

Exhibit A (map) presented in jacket Figure 1.2-1 provides location of off-tract sampling sites. Maps are included in each sub-section for locating on-or near-Tract sampling sites. Station coordinates and four digit computer codes for collection stations sampled periodically since baseline are presented in Section 3.0, Data Automation.

Although not required under the WAP, five Mobil wells are being monitored by Mobil with data being provided to CB. Mobil wells are designated 1, 2, 3, 12 and 13 with associated computer codes MW01 - MW03, MW12 and MW13. Locations are shown on Figure 1.2-2; data appear in Section 1.2.1.8.

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To assist in interpretation of hydrologic and water quality data, the reader must understand that two items in particular may affect monitoring program results: intentional flooding of the V/E shaft and water management practices. The V/E shaft was allowed to flood in September 1981; water levels have reached the equilibrium level shown in Figure 1.2.1.6-1. Direct discharge from Ponds A/B into Piceance Creek via Cast No Name Gulch was utilized to dispose of excess mine water from the Production and Service Shafts.

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Although not required under the WAP, five Mobil wells are being monitored by Mobil with data being provided to CB. Mobil wells are designated 1, 2, 3, 12 and 13 with associated computer codes MW01 - MW03, MW12 and MW13. Locations are shown on Figure 1.2-2; data appear in Section 1.2.1.8.

HYDROLOGY &
WATER QUALITY

TABLE 1.2-1
Interim Monitoring Program
Water Monitoring Requirements by Designation
Observation Wells

Computer Code	Designation	Owner of Well	Formation	Frequency: Levels	Frequency: Water Quality	Measured By
WA01	A-1	TOSCO	Alluvium	M	S/F	A
WA02	A-2	TOSCO	"	M	S/F	A
WA03	A-3	CB	"	M	S/F	A
WA04	A-4	CB	"	Dry	S/F	A
WA05	A-5	CB	"	M	S/F	A
WA55	A-5A	CB	"	M	S/F	A
WA56	A-5B	CB	"	M	S/F	A
WA06	A-6	TOSCO	"	M	S/F	A
WA07	A-7	CB	"	M	S/F	A
WA08	A-8	TOSCO	"	M	S/F	A
WA09	A-9	CB	"	M	S/F	A
WA10	A-10	CB	"	Dry	S/F	A
WA11	A-11	CB	"	M	S/F	A
WA12	A-12	CB	"	M	S/F	A
WA13	A-13	CB	"	Dry	S/F	A
WB03	B-102-3-2	CB	Uinta	S	-	A
WC03	B-102-3-1	CB	Uinta	S	-	A
WD02	CB-2	CB	UPC1/UINTA (COMPOSITE)	M	-	A
WE03	CB-3	CB	UPC2	M	-	A
WE04	CB-4	CB	UPC2	M	-	A
WG12	SG-1-1	CB	LPC3	C	S_1	A
WD12	SG-1-2	CB	UPC1	C	S_1	A
WE11	SG-1A-1	CB	UPC2	S	-	A
WD11	SG-1A-2	CB	UPC1	S	-	A
WE61	SG-6-1	CB	UPC2	M	-	A
WG61	SG-6-2	CB	LPC3	M	-	A
WD61	SG-6-3	CB	UPC1	M	-	A
WY81	SG-8R	CB	Lower Aquifer	M	S_1	A
WG91	SG-9-1	CB	LPC3	B	-	A
WE91	SG-9-2	CB	UPC2	B	-	A
WD91	SG-9-3	CB	UPC1	B	-	A
WC91	SG-9-4	CB	Uinta	B	-	A
WG51	SG-10A-1	CB	LPC3	M	-	A
WE51	SG-10A-2	CB	UPC2	M	-	A
WD51	SG-10A-A	CB	UPC1/CON.UINTA	M	-	A
WD90	SG-10	CB	UN.UINTA	C	Q_1	A
WG52	SG-11-1	CB	LPC3	M	-	A
WE52	SG-11-2	CB	UPC2	M	-	A
WD52	SG-11-3	CB	UPC1	M	-	A
WG17	SG-17-1	CB	LPC3	B	-	A
WE17	SG-17-2	CB	UPC2	B	-	A
WD17	SG-17-3	CB	UPC1	B	-	A
WC17	SG-17-4	CB	Uinta	B	-	A
WD57	SG-17A	CB	UPC1	B	S_1	A
WG18	SG-18A-1	CB	LPC3	Q	-	A
WE18	SG-18A-2	CB	UPC2	Q	-	A
WD18	SG-18A-3	CB	UPC1	Q	-	A
WD19	SG-19	CB	UPC1	M	-	A
WG20	SG-20-1	TOSCO	LPC3	BAD COMPLETION	-	A
WE20	SG-20-2	TOSCO	UPC2	M	S_1	A
WD20	SG-20-3	TOSCO	UPC1	M	S_1	A
WH21	SG-21-1	CB	LPC4	M	-	A
WG21	SG-21-2	CB	LPC3	M	-	A
WE21	SG-21-3	CB	UPC2	M	-	A
WD21	SG-21-4	CB	UPC1	M	-	A
WY44	AT-1	CB	LOWER AQUIFER	C	-	A
WV37	AT-1A	CB	COMPOSITE	M	-	A
WX38	AT-1A-1	CB	UPPER AQUIFER	M	-	A
WY45	AT-1C-1	CB	LOWER AQUIFER	W	Q	A
WY46	AT-1C-2	CB	LOWER AQUIFER	W	-	A
WX44	AT-1C-3	CB	UPPER AQUIFER	C	Q	-
WG41	AT-1D-1	CB	LPC3	B	-	A
WE41	AT-1D-2	CB	UPC2	B	-	A
WD41	AT-1D-3	CB	UPC1	B	-	A
WD14	14X-7-1	CB	UPC1	M	-	A
WD15	14X-7-2	CB	UPC1	B	-	A
WI19	22X-17	CB	UPC2 & LPC3	M	-	A
WI17	24X-17	CB	UPC2 & LPC3	M	-	A
WG23	21X12-1	CB	LPC3	M	-	A
WC23	21X12-2	CB	UN.UINTA	M	-	A
WD22	22X1-2	CB	UPC1	M	-	A
WC22	22X1-3	CB	UN.UINTA	M	-	A

Computer Code	Designation	Owner of Well	Formation	----Frequency--- Levels	Water Quality	Measured By
WG43	43X2-1	CB	LPC3	M	-	A
WE43	43X2-2	CB	UPC2	M	-	A
WW22	31X-12	CB	UN. UINTA	W	M_1/S	A
WX32	32X-12	CB	UPC2	C	S_1	A
WW32	32Y-12	CB	UN. UINTA	M	O_1	A
WW13	41X-13	CB	UN. UINTA	W	M_1/S	A
WV10	TG-71-1	CB	COMPOSITE	Q	-	A
WX75	TH-5**	US	UPPER AQUIFER	Q	-	A
WX64	TH75-5A	US	" "	Q	-	A
WY64	TH75-5B	US	LOWER "	Q	-	A
WX69	TH75-9A	US	UPPER "	Q	-	A
WY69	TH75-9B	US	LOWER "	Q	-	A
WY68	TH75-10B	US	" "	Q	-	A
WX65	TH75-13A	US	UPPER "	Q	-	A
WY65	TH75-13B	US	LOWER "	Q	-	A
WX67	TH75-18A	US	UPPER "	Q	-	A
WY67	TH75-18B	US	LOWER "	Q	-	A
WX72	TH75-15A	US	UPPER "	Q	-	A
WY72	TH75-15B	US	LOWER "	Q	-	A
WY66	EQUITY 1	EQUITY	" "	Q	-	A
WY70	EQUITY SIA	EQUITY	" "	Q	-	A
WV01	GREENO-404	SHELL	COMPOSITE	Q	-	A
WX71	CER RB-D-02	US	UPPER AQUIFER	Q	-	A
WY71	CER RB-D-03	US	LOWER "	Q	-	A
WY75	TG-71-3	TOSCO	" "	Q	-	A
WY78	TG-71-4	"	" "	Q	-	A
WY76	TG-71-5	"	" "	Q	-	A
WV02	OLDLAND 3	"	COMPOSITE	Q	-	A
WV03	GP-17X-BG	US	"	Q	-	A
WV04	BUTE 25	TOSCO	"	Q	-	A
WV05	LIBERTY BELL 12	TOSCO	"	Q	-	A
WX73	UNION 8-1	UNION	UPPER AQUIFER	Q	-	A
WY77	GETTY 9-4D	GETTY	LOWER "	Q	-	A
WY79	EQUITY BS-13	EQUITY	" "	Q	-	A

**Colony TH-5 replaced Colony 12-596

B = Bimonthly
M = Monthly
S = Semiannual
S/F = Semiannual field measurements
C = Continuous
Q = Quarterly
A = Applicant
M/D = Monthly if not diverted
M_1 = Monthly for field measurements + Fluoride
O_1 = Quarterly for field measurements + Fluoride
S_1 = Semiannual but may be changed pending evaluation of hydrographs

Stream Flow

Computer Code	Station Number	Description	Frequency: Discharge	Frequency: Water Quality	Measured By
WU00	09306200	Piceance Creek near Ryan Gulch	C	P	F
WU07 (M)	09306007	Piceance Creek below Rio Blanco	C	P	F
WU22	09306022	Stewart Gulch above West Fork	C	P	F
WU36	09306036	Sorghum Gulch at Mouth	C	P	F
WU39	09306039	Cottonwood Gulch	C	P	F
WU42 (M)	09306042	Tributary of Piceance Creek (East No Name Gulch)	C	P	F
WU45*	09306045	Piceance Creek below East No Name Gulch	B	P	F
WU48	09304800	White River near Meeker (below return flows)	C	P	F
WU52	09306052	Scandard Gulch at Mouth	C	P	F
WU58	09306058	Willow Creek	C	P	F
WU61 (M)	09306061	Piceance Creek above Hunter Creek	C	P	F
WU62	09306222	Piceance Creek at White River	C	P	F

(M) = Major Site
* Starting in water year 1985

Springs and Seeps

Computer Code	Designation	Frequency: Discharge	Frequency: Water Quality	Measured By
WS01	CB S-1	M	M/S	F
WS02	CB S-2	M	M/S	F
WS03	CB S-3	M	M/S	F
WS04	CB S-4	M	M/S	F
WS06	CB S-6	M	M/S	F
WS66	CB S-6A	M	M/S	F
WS07	CB S-7	M	M/S	F
WS08	CB S-8	M	M/S	F
WS09	CB S-9	M	M/S	F
WS10	CB S-10	M	M/S	F
WS11	CB SEEP A	M	M/S	F
WS12	CB S-102	M	M/S	F
WS13	CB S-102A	M	M/S	F
WS21	CER-1	Q	-	A
WS22	B-3	Q	-	A
WS23	H-3	Q	-	A
WS24	F-3	Q	-	A
WS26	W-4	Q	-	A
WS28	CER-7	Q	-	A
WS30	P3 & P3A	Q	-	A
WS31	CER-6	Q	-	A
WS33	S-2	Q	-	A
WS34	W-3	Q	-	A
WS36	CB S-101	M	M/S	F

Precipitation

Computer Code	Designation	Name of Station	Frequency	Measured By
AB23	023	CB Station 023	C	A
AD28	028	Lysimeter site at Shale Pile	C	A

B = Bimonthly
M = Monthly
S = Semi-annual
S/F = Semi-annual field measurements
C = Continuous
Q = Quarterly
A = Applicant
F = USGS
P = Periodically measured
M/S = Monthly field measurements; semi-annual lab analysis

TABLE 1.2-2

Deep Well Index

Aquifer or Zone	General Location	Computer Code	Well Designation	Levels Data on Page	Levels Plot on Page	Water Quality Data on Page
Unita	Close-In	WB03	B-102-3-2	I-101	I-161	NO DATA
		WC03	B-102-3-1	I-102	I-160	NO DATA
		WC17	SG-17-4	I-102	I-148	NO DATA
		WC22	22X1-3	I-102	I-156	NO DATA
		WC23	21X12-2	I-102	I-154	NO DATA
		WC91	SG-9-4	I-102	I-145	NO DATA
Upper	Close-In	WX38	AT-1A-1	I-107	I-134	NO DATA
		WX44	AT-1C-3	I-107	I-135	NO DATA
	Remote	WX64	TH75-5A	I-108	I-163	NO DATA
		WX65	TH75-13A	I-108	I-164	NO DATA
		WX67	TH75-18A	I-108	I-165	NO DATA
		WX69	TH75-9A	I-108	I-166	NO DATA
		WX71	CER RB-D-02	I-108	I-167	NO DATA
		WX72	TH75-15A	I-108	I-168	NO DATA
		WX73	UNION 8-1	I-108	I-169	NO DATA
		WX75	TH-5	NO DATA	I-170	NO DATA
Lower	Close-In	WY44	AT-I	I-109	I-136	NO DATA
		WY45	AT-1C-1	NO DATA	I-135	I-407
		WY46	AT-1C-2	I-109	I-135	NO DATA
		WY81	SG-8R	I-109	I-144	I-407
	Remote	WY64	TH75-5B	I-110	I-172	NO DATA
		WY65	TH75-13B	I-110	I-173	NO DATA
		WY66	EQUITY 1	NO DATA	I-174	NO DATA
		WY67	TH75-18B	I-110	I-175	NO DATA
		WY68	TH75-10B	I-110	I-176	NO DATA
		WY69	TH75-9B	I-110	I-178	NO DATA
		WY70	EQUITY SIA	I-110	I-179	NO DATA
		WY71	CER RB-D-03	I-110	I-177	NO DATA
		WY72	TH75-15B	I-110	I-180	NO DATA
		WY75	TG-71-3	I-110	I-181	NO DATA
		WY76	TG-71-5	I-110	I-182	NO DATA
		WY77	GETTY 9-40	I-110	I-183	NO DATA
		WY78	TG-71-4	I-110	I-184	NO DATA
		WY79	EQUITY BS-13	I-110	I-185	NO DATA
Compos-ite	Close-In	WV10	TG-71-1	I-111	I-192	NO DATA
		WV37	AT-1A	I-111	I-193	NO DATA
	Remote	WV01	GREENO 404	I-111	I-187	NO DATA
		WV02	OLDLAND 3	NO DATA	I-188	NO DATA
		WV03	GP-17X-BG	NO DATA	I-189	NO DATA
		WV04	BUTE 25	NO DATA	I-190	NO DATA
		WV05	LIBERTY BELL I2	I-111	I-191	NO DATA
		WV06	TOSCO WELL	NO DATA	NO DATA	NO DATA
		WV40	AT-1B	NO DATA	NO DATA	NO DATA
UPC1	Close-In	WD02	CB-2	I-103	I-138	NO DATA
		WD11	SG-1A-2	NO DATA	I-141	NO DATA
		WD12	SG-1-2	I-103	I-142	I-398
		WD14	14X-7-1	I-103	I-152	NO DATA
		WD15	14X-7-2	I-103	I-152	NO DATA
		WD17	SG-17-3	I-103	I-148	NO DATA
		WD18	SG-18A-3	I-103	I-149	NO DATA
		WD19	SG-19	I-103	I-138	NO DATA
		WD20	SG-20-3	I-104	I-150	I-398
		WD21	SG-21-4	I-104	I-151	NO DATA
		WD22	22X1-3	I-104	I-155	NO DATA
		WD41	AT-1D-3	I-104	NO DATA	NO DATA
		WD51	SG-10A-A	I-104	I-146	NO DATA
		WD52	SG-11-3	I-104	I-147	NO DATA
		WD57	SG-17-A	I-104	I-139	I-398
		WD61	SG-6-3	I-104	I-143	NO DATA
		WD90	SG-10	I-104	I-139	NO DATA
		WD91	SG-9-3	I-104	I-145	NO DATA

TABLE 1.2-2 (Contd)

Deep Well Index

Aquifer or Zone	General Location	Computer Code	Well Designation	Levels Data on Page	Levels Plot on Page	Water Quality Data on Page
	Close-In (Seepage)	WW13	41X-13	I-207	I-139	NO DATA
		WW22	31X-12	I-207	I-139	NO DATA
		WW32	32Y-12	I-207	I-140	NO DATA
UPC2	Close-In	WE03	Cb-3	I-105	I-138	NO DATA
		WE04	Cb-4	I-105	I-139	NO DATA
		WE11	SG-1A-1	NO DATA	I-141	NO DATA
		WE17	SG-17-2	I-105	I-148	NO DATA
		WE18	SG-18-2	I-105	I-149	NO DATA
		WE20	SG-20-2	I-105	I-150	I-401
		WE22	22X1-1	NO DATA	NO DATA	NO DATA
		WE21	SG-21-3	I-105	I-151	NO DATA
		WE41	AT-1D-2	I-105	I-136	NO DATA
		WE43	43X2-2	I-105	I-159	NO DATA
		WE51	SG-10A-2	I-105	I-146	NO DATA
		WE52	SG-11-2	I-105	I-147	NO DATA
		WE61	SG-6-1	I-105	I-143	NO DATA
		WE91	SG-9-2	I-105	I-145	NO DATA
		WX32	32X-12	I-107	I-157	NO DATA
	Close-In (Injection)	WI17	24X-17	I-204	I-206	NO DATA
		WI18	11X18	NO DATA	NO DATA	NO DATA
		WI19	22X17	I-204	I-207	NO DATA
LPC3	Close-In	WG12	SG-1-1	I-106	I-142	I-404
		WG17	SG-17-1	I-106	I-148	NO DATA
		WG18	SG-18A-1	I-106	I-149	NO DATA
		WG20	SG-20-1*	I-106		I-404
		WG21	SG-21-2	I-106	I-151	NO DATA
		WG23	21X12-1	I-106	I-153	NO DATA
		WG41	AT-1D-1	I-106	I-136	NO DATA
		WG43	43X2-1	I-106	I-158	NO DATA
		WG51	SG-10A-1	I-106	I-146	NO DATA
		WG52	SG-11-1	I-106	I-147	NO DATA
		WG61	SG-6-2	I-106	I-143	NO DATA
		WG91	SG-9-1	I-106	I-145	NO DATA
LPC4	Close-In	WH21	SG-21-1	I-106	I-151	NO DATA

* Data identical to SG-20-2

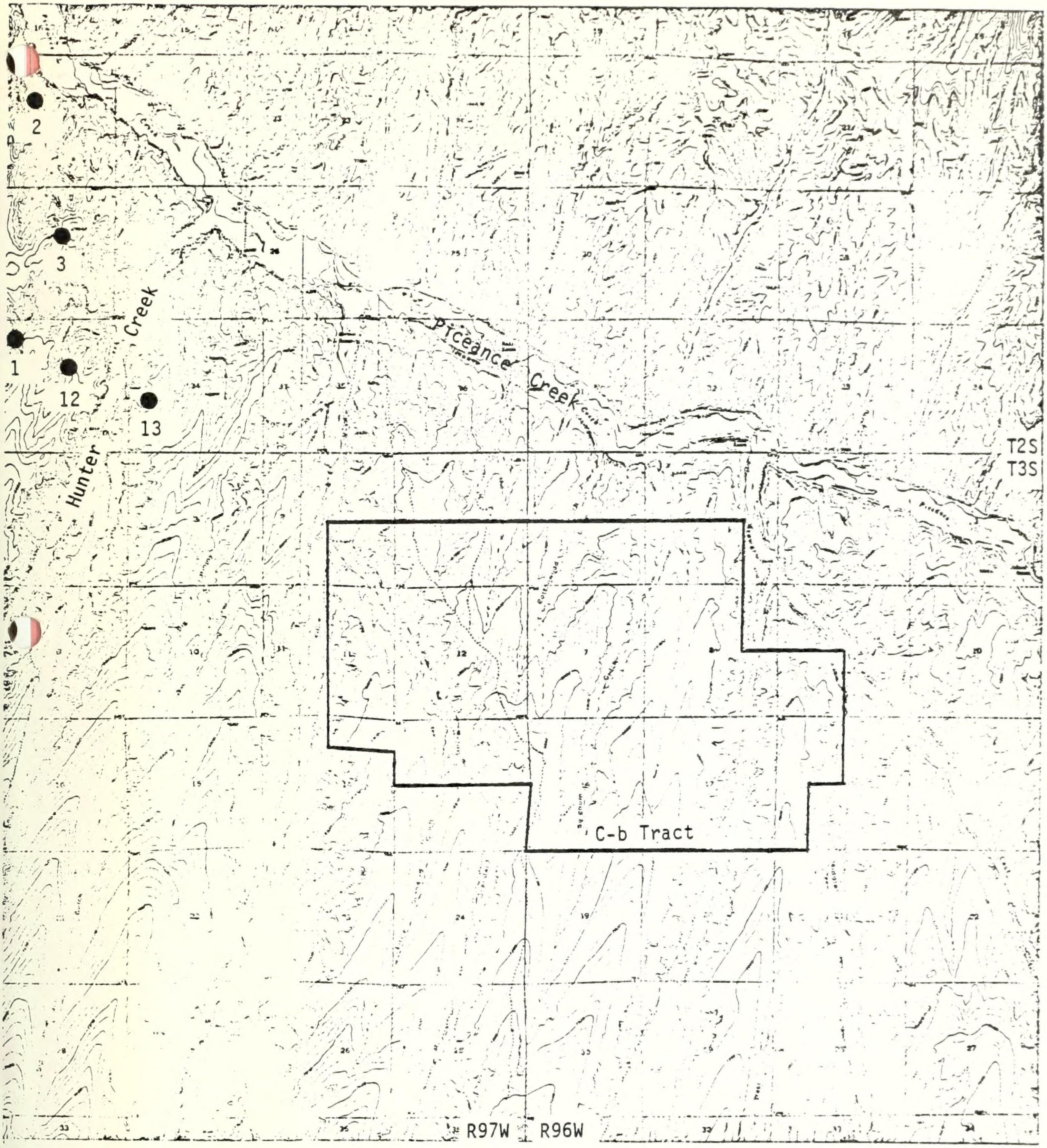
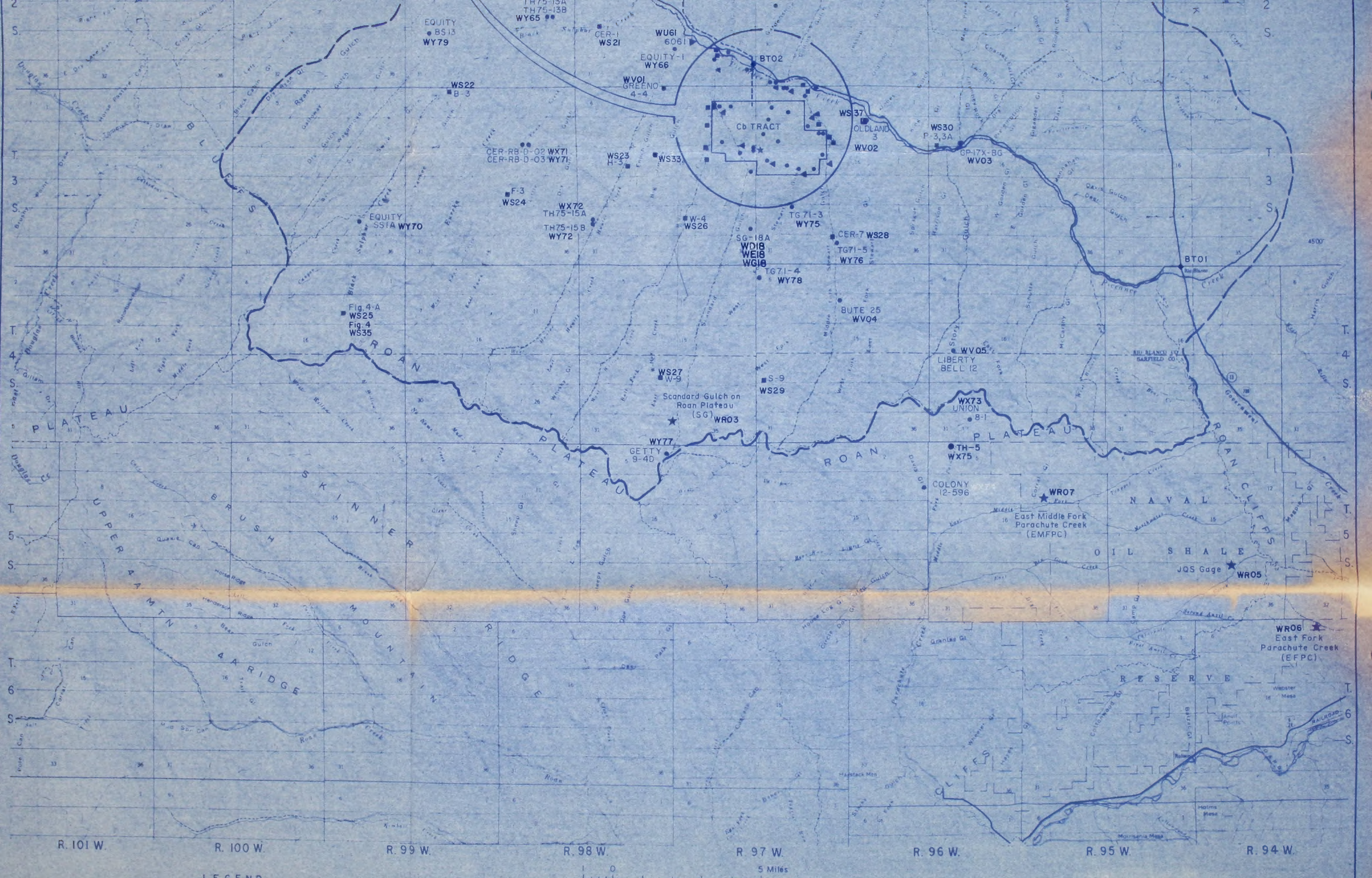


FIGURE 1.2-2
Mobil Well Locations

R. 100 W
R. 99 W
R. 98 W
R. 97 W
R. 96 W
R. 95 W
R 94 W
T. 2 N.
T. 1 N.
T. 1 S.
T. 2 S.
T. 3 S.
WHITE RIVER
COLOROW MTN
6290
WU90
6255
WU55
6224
WU24
BT03
6222
WU62
POWELL PARK RESERVOIR
Meeker
Meeker 2 (M)
4800
Little Hills (LH) WR01
WHITE RIVER-PICEANCE CREEK PIPELINE
GRAND HOGBACK
Corral Gulch (CG) WR04
Gulch Ca Tract
CATHEDRAL BLUFFS
6200
WU00
WX64
TH75-5A
TH75-5B
WY64
WX67
TH75-18A
WY67
TH75-18B
WY68
TH75-10B
WX69
TH75-9A
TH75-9B
WY69
WX65
TH75-13A
TH75-13B
WY65
EQUITY BS13
WY79
CER-1
WS21
WU61
6061
EQUITY-1
WY66
BT02
WV01
GREENO 4-4
WS22
B-3
Cb TRACT
WS37
OLDLAND 3
WV02
WS30
P-3,3A
CP-17X-BG
WV03
CER-RB-D-02 WX71
CER-RB-D-03 WY71
WS23
H-3
WS33
F-3
WS24
WX72
TH75-15A
TH75-15B
WY72
EQUITY SS1A WY70
W-4
WS26
TG71-3
WY75
SG-18A
WD18
WE18
WG18
CER-7 WS28
TG71-5
WY76
TG71-4
WY78
BT01
Fig 4-A
WS25
BUTE 25
WV04
A-1
WA01
S-6
WS06,WS66
S-7
WS07
A-2
WA02
6058
WU58
AB20
AC20
A-5
WA05
6042
WU42
Piceance Creek
WA06
WG20
6039
SG-20
SG-19
WD19
WU39
WS03
6036
WU36
WA07
WU07
6007
WS01
A-8
WA08
WA03
A-3
SG-1
WD12
SG-1A
WE11
S-8
WS08
6052
WU52
Cb-1
WD01
Cb-2
WD02
WE03
6028
WU28
WU22
6022
WS31
WS36
S-9
WS09
SG-6
WD61
AT-1C
WX44
WA11
WA09
SG-8
WY81
S-2
WS02
S-4
WS04
WE91
SG-9
6050
WU50
SG-10A
WG51
SG-11
WD52
AB23
SG-10
WD10
A-4
WA04
W-2
WS32
WS10
S-10
(W-3)
WS34
WA13
A-13
6033
WU33
WA10
A-10
WE04
Cb-4
6015
WU15
SG-17
WA12
A-12
WE17
SG-21
WH21
6025
WU25
Big Jimmy G
Willow Creek
Scandard G
Little Scandard G
Cottonwood G
Sorghum G
West Fork
Yellow Creek



(Base map supplied by the United States Geological Survey)

LEGEND

Symbol	Description
◆	Traffic counter stations
◀	Stream gaging station (prefix 0930 omitted from Station No.)
●	Observation well (may have multiple piezometers)
■	Spring or seep
★	Precipitation station
———	Paved roads
═══	Other roads and trails
— — —	Topographic basin of Piceance Creek

NOTES

See Exhibit B for explanation of monitoring station designations, category and normal frequency of measurements, and entities making measurements.

EXHIBIT A

KEY FEATURES OF HYDROLOGIC MONITORING PROGRAM FOR Cb TRACT

PICEANCE CREEK BASIN
WATER DIVISION NO. 5
STATE OF COLORADO

TK 162

DECEMBER 1978

LEVELS AND FLOWS

1.2.1 Levels and Flows

Hydrologic flows of surface streams, springs and seeps, and water levels in alluvial wells, bedrock wells and impoundments are reported in the sub-sections which follow. Documents and/or permits (IMP, WAP, and NPDES) that require monitoring of these water types are identified within each sub-section.

Tabulated data and time series plots of all water locations follow in respective sub-sections.

SURFACE STREAMS

1.2.1.1 Surface Streams

Daily mean discharge data for eleven major surface water gauging stations monitored for the Interim Monitoring Program (IMP) are included in this section. Location of these monitoring stations are shown on Figure 1.2.1.1-1 and 1.2.1.1-2. Data presented cover October 1983 through September 1984. Data for 1984 water year (October 1983 - September 1984) for stations WU00 and WU20 are presently in the WATSTOR data base and are classified as final. The 1984 water year data will not be entered into WATSTOR until spring of 1985. Changes will be made to these data through the water year if needed; therefore data for October 1983 - September 1984 are classified as preliminary.

The following table lists stations and the pages summarizing data for this reporting period.

TABLE 1.2.1.1-1

Guide for Surface Water Gauging Stations
Discharge Data

Computer Code	Stations for Interim Monitoring	Tabulated Data Presented On Page
WU07	09306007	I-16
WU22	09306022	I-17
WU36	09306036	I-18
WU39	09306039	I-19
WU42	09306042	I-20
WU52	09306052	I-21
WU58	09306058	I-22
WU61	09306061	I-23
WU00	09306200	I-24
WU62	09306222	I-28
WU45	09306045*	NO DATA
WU48	09304800	NO DATA

* Water year 1985

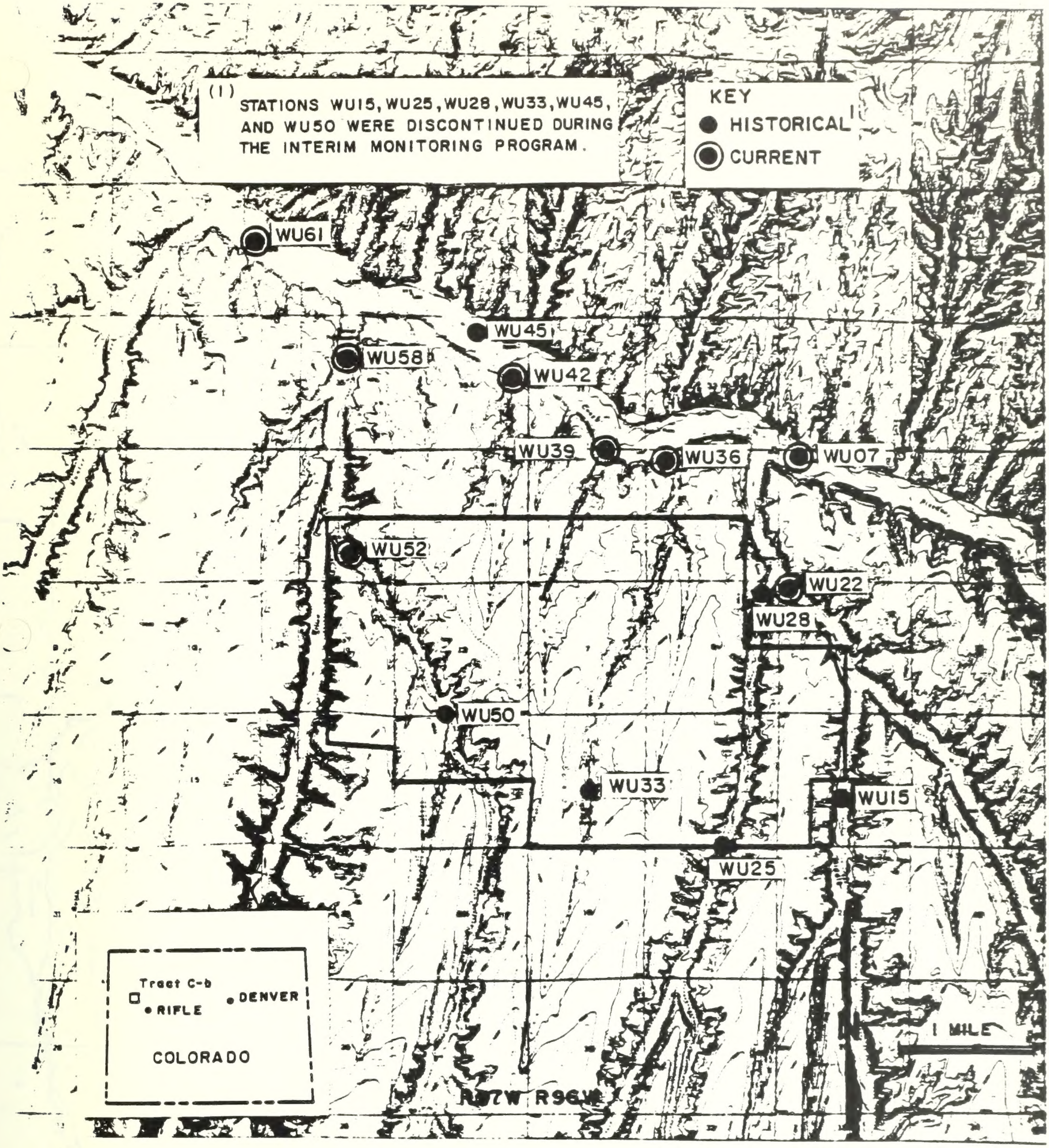


Figure I.2.1.1-1 NEAR-TRACT STREAM GAUGING STATION MONITORING NETWORK

Revised 3/11/85

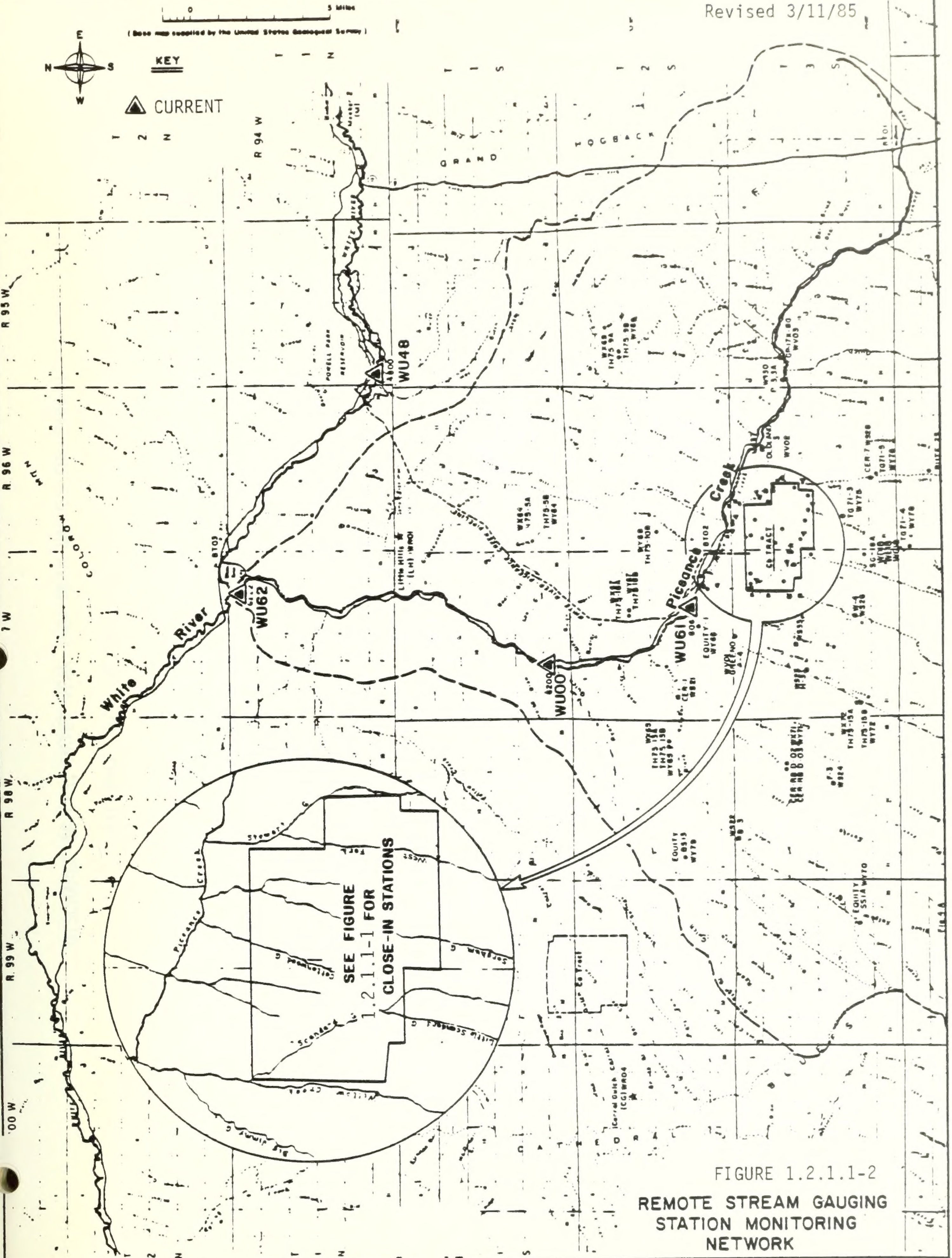


FIGURE 1.2.1.1-2

REMOTE STREAM GAUGING STATION MONITORING NETWORK

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306007

PICEANCE CREEK BELOW RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	15.0	18.0	13.0	11.0	13.0	13.0	33.0	103.0	116.0	89.0	60.0	37.0
2	17.0	17.0	14.0	12.0	13.0	13.0	34.0	116.0	107.0	85.0	61.0	37.0
3	19.0	17.0	13.0	12.0	13.0	13.0	34.0	118.0	99.0	86.0	59.0	35.0
4	20.0	16.0	14.0	14.0	13.0	13.0	34.0	123.0	97.0	88.0	62.0	34.0
5	20.0	16.0	13.0	14.0	13.0	14.0	37.0	138.0	96.0	90.0	57.0	32.0
6	20.0	15.0	15.0	13.0	14.0	13.0	40.0	146.0	98.0	96.0	59.0	31.0
7	20.0	15.0	12.0	12.0	12.0	13.0	44.0	146.0	264.0	84.0	60.0	30.0
8	19.0	18.0	13.0	12.0	10.0	13.0	54.0	154.0	242.0	79.0	57.0	30.0
9	18.0	17.0	12.0	12.0	11.0	13.0	70.0	179.0	223.0	79.0	56.0	30.0
10	18.0	16.0	13.0	12.0	10.0	13.0	60.0	213.0	207.0	89.0	54.0	29.0
11	17.0	16.0	13.0	11.0	11.0	14.0	61.0	268.0	195.0	72.0	52.0	28.0
12	17.0	17.0	13.0	11.0	13.0	14.0	56.0	334.0	187.0	68.0	52.0	28.0
13	18.0	16.0	13.0	12.0	11.0	14.0	56.0	381.0	178.0	67.0	51.0	28.0
14	24.0	16.0	13.0	12.0	11.0	15.0	57.0	396.0	167.0	68.0	52.0	27.0
15	24.0	15.0	13.0	12.0	11.0	16.0	62.0	410.0	156.0	66.0	49.0	26.0
16	21.0	15.0	13.0	12.0	12.0	16.0	79.0	387.0	150.0	63.0	49.0	29.0
17	20.0	15.0	12.0	12.0	11.0	17.0	97.0	335.0	143.0	61.0	51.0	30.0
18	19.0	15.0	12.0	12.0	12.0	19.0	121.0	285.0	136.0	60.0	47.0	28.0
19	18.0	15.0	12.0	12.0	13.0	16.0	131.0	265.0	127.0	58.0	47.0	27.0
20	18.0	15.0	12.0	12.0	12.0	16.0	125.0	254.0	120.0	56.0	52.0	27.0
21	18.0	15.0	12.0	13.0	12.0	20.0	103.0	243.0	114.0	54.0	51.0	27.0
22	20.0	14.0	12.0	13.0	12.0	22.0	94.0	231.0	108.0	52.0	46.0	26.0
23	20.0	15.0	12.0	13.0	12.0	21.0	99.0	219.0	104.0	55.0	44.0	25.0
24	19.0	13.0	11.0	13.0	13.0	23.0	113.0	206.0	97.0	57.0	43.0	25.0
25	19.0	14.0	11.0	13.0	12.0	27.0	131.0	195.0	95.0	58.0	43.0	25.0
26	20.0	14.0	11.0	13.0	12.0	27.0	125.0	180.0	93.0	56.0	42.0	25.0
27	20.0	13.0	11.0	13.0	13.0	29.0	113.0	164.0	90.0	57.0	40.0	25.0
28	19.0	13.0	12.0	13.0	13.0	28.0	109.0	146.0	87.0	56.0	39.0	24.0
29	19.0	13.0	12.0	12.0	14.0	30.0	102.0	133.0	86.0	58.0	37.0	24.0
30	19.0	13.0	11.0	12.0		31.0	100.0	123.0	85.0	59.0	36.0	23.0
31	19.0		11.0	13.0		32.0	0.0	116.0		58.0	35.0	
TOTAL*	594.0	457.0	384.0	383.0	352.0	578.0	2374.0	6707.0	4067.0	2124.0	1543.0	852.0

WATER YEAR TOTAL 20415.0 MEAN 55.78

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1983 MEAN VALUES FOR 9306022

STEWART GULCH ABOVE WEST FORK NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	2.9	2.1	4.1	3.6	3.2	3.5	3.2	2.3	2.8	2.5	6.6	4.2
2	3.0	2.1	4.0	3.6	3.2	3.6	3.2	2.4	2.9	0.07	6.3	4.2
3	3.0	2.0	4.0	3.6	3.2	3.5	3.2	2.4	3.1	2.5	6.3	4.4
4	2.8	2.0	4.0	3.5	3.2	3.5	3.1	2.3	3.1	4.5	6.4	6.7
5	2.7	2.1	3.9	3.5	3.2	3.5	3.1	2.4	3.5	4.6	6.3	7.8
6	2.5	2.1	3.8	3.5	3.2	3.3	3.1	2.4	4.2	4.8	6.4	7.7
7	2.4	2.2	3.8	3.5	3.2	3.3	3.1	2.4	5.7	4.7	6.4	7.8
8	2.4	2.6	3.9	3.5	3.2	3.5	3.0	2.3	4.5	4.7	6.4	7.6
9	2.4	2.4	3.9	3.5	3.2	3.3	3.0	2.2	4.7	5.0	6.4	7.5
10	2.4	2.4	3.8	3.5	3.2	3.5	3.0	2.2	4.7	5.0	6.4	7.5
11	2.4	2.4	3.9	3.5	3.2	3.3	3.0	2.1	4.9	5.0	6.4	7.5
12	2.4	2.5	4.0	3.5	3.2	3.6	2.9	2.1	5.1	5.3	6.6	7.3
13	2.4	2.6	4.1	3.5	3.2	3.8	2.8	2.2	5.4	5.5	6.9	6.7
14	2.6	2.4	4.1	3.5	3.3	3.8	2.8	2.1	5.4	5.0	4.4	6.6
15	2.4	2.3	4.0	3.5	3.2	3.8	2.7	2.0	5.7	5.0	2.6	6.5
16	2.4	2.5	4.0	3.5	3.2	3.7	2.7	2.0	5.7	5.0	3.0	6.6
17	2.4	2.3	4.1	3.3	3.2	3.8	2.7	2.0	5.9	5.1	3.4	6.4
18	2.3	2.3	4.0	3.3	3.2	3.8	2.6	2.0	6.5	5.1	3.4	6.4
19	2.2	2.4	3.8	3.3	3.2	3.7	2.5	2.0	3.1	5.1	3.5	6.4
20	2.2	2.3	3.8	3.2	3.2	3.8	2.5	2.0	1.3	5.2	3.7	6.4
21	2.2	2.4	3.8	3.2	3.5	3.6	2.5	2.1	2.8	5.2	3.8	6.3
22	2.2	2.4	3.7	3.2	3.5	3.4	2.3	2.1	5.3	5.2	3.6	6.2
23	2.2	2.4	3.6	3.2	3.5	3.4	2.3	2.0	5.0	5.2	3.6	6.1
24	2.2	2.3	3.5	3.2	3.5	3.5	2.3	2.0	5.0	5.2	3.7	6.2
25	2.2	2.4	3.5	3.2	3.5	3.5	2.4	2.0	5.1	5.3	3.7	6.2
26	2.2	2.3	3.3	3.2	3.5	3.5	2.3	2.0	4.9	5.3	3.8	6.1
27	2.1	2.4	3.6	3.2	3.5	3.5	2.2	2.0	5.0	5.4	3.8	6.2
28	2.1	2.4	3.6	3.2	3.5	3.4	2.2	2.1	5.1	5.4	3.9	6.2
29	2.1	2.4	3.6	3.2	3.5	3.3	2.2	2.3	4.1	5.4	4.0	6.0
30	2.1	3.0	3.6	3.2		3.3	2.3	2.3	3.5	5.5	4.0	5.9
31	2.1		3.6	3.2		3.2		2.6		5.5	4.0	
TOTAL*	73.9	70.4	118.4	104.0	95.6	109.2	81.2	67.3	134.0	148.27	149.7	193.6

WATER YEAR TOTAL 1346.16 MEAN 3.68

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306036

SORGHUM GULCH AT MOUTH NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0		
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0		
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.03	0.0		
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25	0.0		
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	0.0		
8	0.0	0.83	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0		
9	0.0	0.06	0.0	0.0	0.0	0.0	0.02	0.0	0.0	0.38		
10	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.07		
11	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0			
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
15	0.0	0.0	0.0	0.0	0.0	0.65	0.0	0.0	0.03			
16	0.0	0.0	0.0	0.0	0.0	0.35	0.0	0.0	0.46			
17	0.0	0.0	0.0	0.0	0.0	0.40	0.0	0.0	0.0			
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
20	0.0	0.0	0.0	0.0	0.0	0.24	0.0	0.0	0.0			
21	0.0	0.0	0.0	0.0	0.0	0.52	0.0	0.0	0.0			
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
24	0.0	0.0	0.0	0.0	0.0	0.20	0.0	0.0	0.0			
25	0.0	0.0	0.0	0.0	0.0	0.0	0.02	0.0	0.0			
26	0.0	0.0	0.0	0.0	0.0	0.0	0.69	0.0	0.0			
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
30	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0			
31								1.9				
TOTAL*	0.0	0.89	0.0	0.0	0.0	2.37	0.75	1.9	5.41	0.46		

WATER YEAR TOTAL 11.78 MEAN 0.03

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306039

COTTONWOOD GULCH NEAR RANGELY, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.45	
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0	
8	0.0	0.0	0.0	0.0	0.0	0.17	0.0	0.0	0.05	0.0	0.0	
9	0.0	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.01	0.10	0.0	
10	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.02	0.0	
11	0.0	0.0	0.0	0.0	0.0	0.06	0.0	0.0	0.0	0.0	0.0	
12	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	0.0	0.17	0.0	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	0.08	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	0.09	0.0	0.0	0.01	0.0	0.0	
16	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.12	0.0	2.5	
17	0.0	0.0	0.0	0.0	0.0	0.05	0.0	0.0	0.0	0.0	0.0	
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	
21	0.0	0.0	0.0	0.0	0.0	0.04	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.59	
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
31	0.0	0.0	0.0	0.0	0.0	0.0		0.54	0.0	0.0	0.0	
TOTAL*	0.0	0.0	0.0	0.0	0.0	0.91	0.0	0.54	1.46	0.12	3.54	

WATER YEAR TOTAL 6.58 MEAN 0.02

*CFS - Days

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306042

PICEANCE CREEK TRIBUTARY NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	0.45	0.40	0.49	0.53	0.59	0.49	0.52	0.55	0.51	0.50	6.6	
2	0.49	0.35	0.53	0.53	0.63	0.44	0.53	0.57	0.30	0.53	0.2	
3	0.53	0.44	0.53	0.53	0.54	0.49	0.54	0.61	0.38	1.10	0.15	
4	0.53	0.44	0.53	0.53	0.58	0.53	0.54	0.61	0.31	1.00	0.12	
5	0.53	0.40	0.53	0.53	0.58	0.55	0.57	0.55	0.36	0.61	0.1	
6	0.49	0.41	0.52	0.53	0.53	0.58	0.58	0.55	0.44	0.49	0.08	
7	0.49	0.42	0.52	0.53	0.52	0.60	0.59	0.53	1.80	0.49	0.05	
8	0.44	0.60	0.50	0.53	0.61	0.62	0.63	0.51	1.30	0.44	0.02	
9	0.44	0.57	0.50	0.53	0.60	0.60	0.68	0.49	0.58	0.76	0.0	
10	0.44	0.71	0.50	0.53	0.56	0.60	0.64	0.48	0.40	0.47	0.0	
11	0.44	0.58	0.50	0.53	0.51	0.60	0.68	0.45	0.93	0.34	0.0	
12	0.44	0.58	0.49	0.53	0.33	0.60	0.67	0.49	1.10	0.35	0.0	
13	0.40	0.77	0.53	0.58	0.50	0.60	0.63	0.55	1.40	0.69	0.0	
14	0.53	0.99	0.53	0.53	0.63	0.62	0.63	0.75	0.62	0.43	0.0	
15	0.49	0.99	0.53	0.49	0.58	0.58	0.66	0.42	0.67	0.68	0.0	
16	0.44	0.82	0.50	0.31	0.62	0.53	0.64	0.39	0.99	1.70	5.0	
17	0.40	0.62	0.49	0.33	0.67	0.53	0.73	0.40	0.71	1.40	0.0	
18	0.35	0.62	0.53	0.35	0.71	0.58	0.72	0.38	0.77	1.50	0.0	
19	0.35	0.62	0.49	0.37	0.65	0.71	0.67	0.37	0.58	1.50	0.0	
20	0.40	0.62	0.67	0.39	0.62	0.62	0.64	0.33	0.62	1.50	0.0	
21	0.40	0.62	0.53	0.41	0.60	0.60	0.64	0.46	0.62	1.00	0.0	
22	0.40	0.62	0.53	0.43	0.60	0.58	0.59	0.24	0.93	1.30	0.0	
23	0.44	0.53	0.53	0.45	0.60	0.50	0.50	0.24	1.10	1.10	0.0	
24	0.40	0.67	0.53	0.47	0.60	0.51	0.62	0.22	0.53	0.96	0.0	
25	0.40	0.67	0.53	0.49	0.60	0.55	0.76	0.24	0.49	0.95	0.0	
26	0.35	0.58	0.53	0.57	0.60	0.56	0.91	0.25	0.40	0.68	0.0	
27	0.40	0.58	0.53	0.61	0.60	0.63	0.68	0.32	0.40	0.40	0.0	
28	0.40	0.49	0.53	0.65	0.58	0.56	0.61	0.34	0.47	0.38	0.0	
29	0.40	0.49	0.53	0.60	0.58	0.54	0.57	0.31	0.48	0.31	0.0	
30	0.35	0.50	0.53	0.56		0.53	0.54	0.29	0.56	0.31	0.0	
31	0.49		0.53	0.55		0.52		0.74		0.22	0.0	
TOTAL*	13.51	17.68	16.24	15.51	16.91	17.55	18.92	13.65	20.74	24.09	12.32	

WATER YEAR TOTAL 187.12 MEAN 0.51

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306052

SCANDARD GULCH AT MOUTH NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.31	
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.25	
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
29	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
30	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	0.0	0.0	0.0	
TOTAL*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.19	2.0	0.0	0.61	

WATER YEAR TOTAL - 2.80　　MEAN - 0.01

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306058

WILLOW CREEK NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	8.3	6.1	5.6	6.0	5.7	4.7	5.2	6.7	8.7	12.0	12.0	5.4
2	8.6	6.1	5.9	6.0	5.6	4.9	5.3	6.8	8.9	10.0	10.0	5.3
3	8.8	6.0	6.2	6.1	5.6	4.9	4.9	6.8	8.5	8.9	9.9	5.2
4	8.7	6.0	6.0	6.1	5.5	4.6	4.7	7.1	8.8	10.0	9.2	5.2
5	8.4	6.1	5.8	6.2	5.4	4.5	5.0	7.3	9.3	8.1	9.5	5.1
6	8.5	5.9	5.6	6.2	5.3	4.4	5.3	7.4	11.0	6.4	9.3	4.8
7	8.2	5.8	5.5	6.3	5.1	4.3	5.4	7.4	14.0	9.8	9.2	4.1
8	7.8	5.5	5.5	6.2	4.9	4.3	5.3	7.3	12.0	10.0	8.5	4.5
9	7.7	5.3	5.8	6.1	4.7	5.0	5.6	7.3	5.9	8.5	8.1	4.9
10	7.6	5.3	5.8	6.3	4.8	4.9	5.3	7.5	4.6	10.0	8.0	4.8
11	7.5	5.3	6.2	6.1	4.9	5.0	5.7	7.5	6.6	12.0	8.6	5.1
12	7.3	5.3	6.2	6.1	4.8	4.7	5.1	7.5	7.0	11.0	8.4	4.6
13	7.4	5.4	6.1	5.9	4.8	5.3	5.2	7.5	7.0	11.0	7.8	4.0
14	7.9	5.4	6.2	6.0	5.0	5.9	5.2	7.6	7.2	11.0	7.7	3.5
15	7.3	5.5	6.2	6.0	4.8	6.2	5.2	7.4	4.7	12.0	7.4	3.5
16	7.1	5.5	6.0	4.6	4.8	6.1	5.2	7.6	3.0	12.0	7.2	3.8
17	6.9	5.6	5.8	4.0	4.5	5.6	5.3	8.4	4.3	12.0	6.0	2.7
18	7.1	5.7	6.0	3.7	4.4	5.2	5.6	8.0	5.2	12.0	5.4	2.6
19	6.9	5.8	6.1	2.3	4.4	4.1	5.8	6.9	5.9	11.0	5.4	3.0
20	6.9	5.9	6.1	2.5	4.4	4.8	6.0	7.4	6.1	12.0	5.5	4.0
21	6.7	6.0	6.0	3.5	4.4	5.9	6.1	8.2	5.9	12.0	5.6	3.8
22	6.7	5.7	6.0	4.5	4.2	6.1	6.0	8.7	6.2	12.0	5.6	3.4
23	6.5	6.2	6.0	5.8	4.3	5.4	6.1	9.3	5.9	11.0	5.5	3.0
24	6.4	5.4	5.8	5.5	4.3	5.4	6.0	9.0	8.3	12.0	5.5	3.2
25	6.4	5.6	5.8	5.5	4.7	5.7	6.1	8.8	9.1	12.0	5.4	3.4
26	6.4	5.1	5.8	5.8	4.7	5.2	6.2	8.3	7.7	12.0	5.4	3.8
27	6.3	5.5	5.5	5.6	4.7	5.1	6.2	8.1	6.8	11.0	5.0	3.9
28	6.2	5.3	5.8	5.6	4.7	4.8	6.3	8.3	8.9	9.5	5.1	3.6
29	6.2	5.5	5.8	5.6	4.7	4.9	6.5	9.4	8.7	9.3	5.1	3.6
30	6.2	5.4	5.8	5.6		5.2	6.7	9.1	11.0	9.8	5.3	3.7
31	6.1		5.9	5.6		4.9		9.1		9.8	5.3	
TOTAL*	225.0	169.2	182.8	167.3	140.1	158.0	168.5	243.7	227.2	330.1	221.9	121.5

WATER YEAR TOTAL 2355.3 MEAN 6.44

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306061

PICEANCE CREEK ABOVE HUNTER CREEK NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	42.0	42.0	33.0	26.0	27.0	27.0	41.0	125.0	152.0	99.0	85.0	55.0
2	41.0	41.0	33.0	27.0	27.0	28.0	40.0	143.0	142.0	88.0	78.0	54.0
3	41.0	39.0	33.0	30.0	27.0	29.0	40.0	158.0	131.0	94.0	76.0	51.0
4	41.0	38.0	34.0	33.0	27.0	28.0	40.0	162.0	130.0	100.0	84.0	50.0
5	40.0	37.0	34.0	33.0	27.0	28.0	41.0	181.0	137.0	92.0	77.0	50.0
6	42.0	38.0	36.0	32.0	27.0	31.0	41.0	202.0	141.0	76.0	76.0	48.0
7	42.0	40.0	35.0	31.0	27.0	32.0	42.0	206.0	290.0	76.0	75.0	45.0
8	40.0	43.0	35.0	30.0	26.0	30.0	57.0	210.0	243.0	76.0	72.0	45.0
9	39.0	39.0	34.0	29.0	26.0	31.0	78.0	214.0	206.0	75.0	71.0	43.0
10	38.0	55.0	34.0	28.0	26.0	32.0	62.0	249.0	192.0	118.0	70.0	43.0
11	37.0	39.0	34.0	28.0	25.0	33.0	61.0	291.0	182.0	102.0	69.0	43.0
12	41.0	38.0	34.0	28.0	25.0	36.0	57.0	357.0	174.0	90.0	69.0	43.0
13	51.0	33.0	33.0	29.0	26.0	36.0	56.0	393.0	169.0	86.0	68.0	42.0
14	54.0	38.0	33.0	30.0	26.0	35.0	55.0	409.0	157.0	88.0	69.0	40.0
15	54.0	36.0	33.0	29.0	26.0	36.0	55.0	413.0	156.0	84.0	63.0	39.0
16	51.0	35.0	33.0	29.0	26.0	37.0	90.0	426.0	143.0	81.0	67.0	43.0
17	49.0	35.0	25.0	29.0	26.0	37.0	121.0	367.0	138.0	75.0	62.0	40.0
18	48.0	35.0	22.0	29.0	26.0	37.0	150.0	314.0	135.0	73.0	58.0	39.0
19	47.0	35.0	23.0	29.0	26.0	37.0	166.0	288.0	126.0	72.0	56.0	37.0
20	47.0	34.0	22.0	29.0	30.0	38.0	150.0	262.0	113.0	72.0	66.0	38.0
21	46.0	38.0	22.0	29.0	30.0	41.0	116.0	260.0	107.0	68.0	63.0	37.0
22	48.0	34.0	23.0	29.0	27.0	40.0	106.0	246.0	105.0	69.0	59.0	37.0
23	47.0	35.0	24.0	28.0	27.0	40.0	108.0	235.0	101.0	70.0	57.0	36.0
24	47.0	33.0	25.0	28.0	27.0	40.0	126.0	239.0	96.0	75.0	57.0	40.0
25	48.0	35.0	26.0	28.0	27.0	42.0	145.0	230.0	99.0	77.0	56.0	39.0
26	62.0	36.0	27.0	28.0	27.0	41.0	146.0	209.0	103.0	75.0	55.0	35.0
27	44.0	35.0	27.0	28.0	27.0	43.0	129.0	193.0	99.0	75.0	54.0	35.0
28	42.0	43.0	27.0	28.0	27.0	41.0	128.0	183.0	94.0	75.0	53.0	35.0
29	41.0	50.0	27.0	28.0	27.0	41.0	119.0	164.0	90.0	74.0	51.0	36.0
30	40.0	39.0	27.0	28.0		40.0	119.0	151.0	93.0	74.0	50.0	35.0
31	41.0		27.0	27.0		40.0		144.0		75.0	49.0	
TOTAL*	1391.0	1148.0	915.0	897.0	775.0	1107.0	2685.0	7624.0	4244.0	2524.0	2015.0	1253.0

WATER YEAR TOTAL 26536.0 MEAN 72.5

*CFS - Days

Preliminary Record

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306200

PICEANCE CREEK BELOW RYAN GULCH NEAR RIO BLANCO, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	55.0	48.0	59.0	63.0	41.0	38.0	50.0	134.0	172.0	118.0	110.0	80.0
2	60.0	48.0	59.0	63.0	39.0	38.0	51.0	140.0	168.0	115.0	116.0	78.0
3	61.0	48.0	59.0	65.0	39.0	40.0	49.0	168.0	151.0	113.0	108.0	76.0
4	59.0	48.0	59.0	65.0	39.0	38.0	47.0	172.0	145.0	112.0	114.0	75.0
5	55.0	48.0	59.0	65.0	37.0	35.0	50.0	189.0	147.0	107.0	108.0	74.0
6	54.0	48.0	59.0	65.0	37.0	38.0	54.0	212.0	152.0	94.0	109.0	73.0
7	53.0	48.0	59.0	65.0	37.0	37.0	57.0	221.0	309.0	92.0	108.0	72.0
8	52.0	53.0	59.0	63.0	37.0	39.0	64.0	221.0	255.0	86.0	102.0	71.0
9	50.0	55.0	59.0	63.0	37.0	40.0	86.0	232.0	216.0	83.0	98.0	70.0
10	50.0	55.0	59.0	63.0	35.0	42.0	78.0	256.0	198.0	117.0	95.0	69.0
11	50.0	55.0	59.0	61.0	32.0	43.0	80.0	303.0	191.0	122.0	93.0	67.0
12	49.0	55.0	61.0	61.0	33.0	44.0	71.0	372.0	183.0	109.0	93.0	66.0
13	51.0	55.0	61.0	59.0	35.0	53.0	71.0	416.0	182.0	106.0	92.0	65.0
14	55.0	55.0	61.0	59.0	39.0	55.0	68.0	424.0	176.0	108.0	97.0	61.0
15	56.0	55.0	61.0	57.0	38.0	56.0	71.0	492.0	166.0	107.0	88.0	60.0
16	54.0	55.0	61.0	57.0	37.0	59.0	85.0	516.0	164.0	103.0	96.0	65.0
17	52.0	55.0	61.0	55.0	37.0	55.0	108.0	483.0	159.0	89.0	95.0	65.0
18	52.0	55.0	61.0	55.0	38.0	54.0	145.0	432.0	162.0	100.0	89.0	61.0
19	52.0	55.0	61.0	53.0	36.0	49.0	162.0	382.0	151.0	96.0	88.0	59.0
20	52.0	57.0	61.0	53.0	35.0	50.0	158.0	342.0	139.0	91.0	101.0	63.0
21	52.0	57.0	61.0	51.0	37.0	56.0	126.0	320.0	135.0	84.0	103.0	60.0
22	52.0	57.0	61.0	51.0	39.0	67.0	111.0	299.0	134.0	82.0	92.0	60.0
23	51.0	57.0	63.0	49.0	37.0	67.0	112.0	276.0	134.0	85.0	89.0	58.0
24	50.0	57.0	63.0	49.0	38.0	68.0	125.0	258.0	125.0	92.0	89.0	58.0
25	50.0	57.0	63.0	47.0	37.0	66.0	146.0	245.0	125.0	94.0	87.0	60.0
26	51.0	57.0	63.0	47.0	37.0	57.0	167.0	229.0	134.0	91.0	85.0	59.0
27	51.0	57.0	63.0	45.0	35.0	48.0	156.0	212.0	129.0	93.0	83.0	59.0
28	50.0	57.0	63.0	45.0	36.0	46.0	147.0	200.0	125.0	92.0	81.0	57.0
29	50.0	57.0	63.0	43.0	38.0	47.0	136.0	188.0	119.0	91.0	87.0	57.0
30	49.0	57.0	63.0	43.0		47.0	129.0	175.0	114.0	93.0	85.0	57.0
31	49.0		63.0	41.0		47.0		165.0		96.0	82.0	0.0
TOTAL*	1627.0	1621.0	1887.0	1721.0	1072.0	1519.0	2960.0	8674.0	4860.0	3061.0	2963.0	1955.0

WATER YEAR TOTAL 33920.0 MEAN 92.68

*CFS - Days

Preliminary Record

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306200 PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395516 LONGITUDE 1081749 DRAINAGE AREA 506.00 DATUM 6070.00 STATE 08 COUNTY 103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1			55			48			59			63
2			60			48			59			63
3			61			48			59			65
4			59			48			59			65
5			55			48			59			65
6			54			48			59			65
7			53			48			59			65
8			52			53			59			63
9			50			55			59			63
10			50			55			59			63
11			50			55			59			61
12			49			55			61			61
13			51			55			61			59
14			55			55			61			59
15			56			55			61			57
16			54			55			61			57
17			52			55			61			55
18			52			55			61			55
19			52			55			61			53
20			52			57			61			53
21			52			57			61			51
22			52			57			61			51
23			51			57			63			49
24			50			57			63			49
25			50			57			63			47
26			51			57			63			47
27			51			57			63			45
28			50			57			63			45
29			50			57			63			43
30			49			57			63			43
31			49						63			41
MONTH			52			54			61			56

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306200 PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395516 LONGITUDE 1081749 DRAINAGE AREA 506.00 DATUM 6070.00 STATE 08 COUNTY 103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1			41			38			50			134
2			39			38			51			140
3			39			40			49			168
4			39			38			47			172
5			37			35			50			189
6			37			38			54			212
7			37			37			57			221
8			37			39			64			221
9			37			40			86			232
10			35			42			78			256
11			32			43			80			303
12			33			44			71			372
13			35			53			71			416
14			39			55			68			424
15			38			56			71			492
16			37			59			85			516
17			37			55			108			483
18			38			54			145			432
19			36			49			162			382
20			35			50			158			342
21			37			56			126			320
22			39			67			111			299
23			37			67			112			276
24			38			68			125			258
25			37			66			146			245
26			37			57			167			229
27			35			48			156			212
28			36			46			147			200
29			38			47			136			188
30						47			129			175
31						47						165
MONTH			37			49			99			280

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09306200 PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. STREAM SOURCE AGENCY USGS
LATITUDE 395516 LONGITUDE 1081749 DRAINAGE AREA 506.00 DATUM 6070.00 STATE 08 COUNTY 103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1			172			118			110			.00
2			168			115			116			.00
3			151			113			108			.00
4			145			112			114			.00
5			147			107			108			.00
6			152			94			109			.00
7			309			92			108			.00
8			255			86			102			.00
9			216			83			98			.00
10			198			117			95			.00
11			191			122			93			.00
12			183			109			93			.00
13			182			106			.00			.00
14			176			108			.00			.00
15			166			107			.00			.00
16			164			103			.00			.00
17			159			89			.00			.00
18			162			100			.00			.00
19			151			96			.00			.00
20			139			91			.00			.00
21			135			84			.00			.00
22			134			82			.00			.00
23			134			85			.00			.00
24			125			92			.00			.00
25			125			94			.00			.00
26			134			91			.00			.00
27			129			93			.00			.00
28			125			92			.00			.00
29			119			91			.00			.00
30			114			93			.00			.00
31						96			.00			
MONTH			162			99			40			.00
YEAR	---	---	83									

DISCHARGE IN CFS, WATER YEAR 1984 MEAN VALUES FOR 9306222

PICEANCE CREEK AT WHITE RIVER CITY, CO

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	36.0	60.0	49.0	48.0	26.0	40.0	59.0	145.0	186.0	136.0	119.0	98.0
2	76.0	58.0	48.0	48.0	24.0	40.0	57.0	151.0	191.0	135.0	137.0	96.0
3	76.0	56.0	47.0	50.0	24.0	40.0	56.0	171.0	176.0	135.0	122.0	94.0
4	72.0	56.0	47.0	50.0	24.0	42.0	54.0	171.0	176.0	135.0	123.0	91.0
5	67.0	56.0	46.0	50.0	22.0	44.0	54.0	189.0	177.0	136.0	116.0	88.0
6	66.0	56.0	45.0	50.0	22.0	46.0	54.0	201.0	197.0	127.0	117.0	86.0
7	36.0	55.0	44.0	50.0	22.0	47.0	54.0	206.0	290.0	125.0	118.0	84.0
8	62.0	58.0	46.0	50.0	22.0	49.0	59.0	200.0	358.0	125.0	112.0	81.0
9	61.0	58.0	46.0	48.0	22.0	50.0	76.0	197.0	284.0	129.0	110.0	78.0
10	61.0	56.0	46.0	48.0	20.0	55.0	75.0	211.0	249.0	137.0	106.0	76.0
11	60.0	57.0	46.0	48.0	18.0	65.0	72.0	270.0	220.0	148.0	102.0	73.0
12	59.0	57.0	46.0	46.0	19.0	62.0	65.0	340.0	196.0	139.0	101.0	70.0
13	60.0	56.0	46.0	46.0	21.0	70.0	65.0	384.0	189.0	131.0	102.0	68.0
14	60.0	55.0	46.0	44.0	25.0	90.0	66.0	434.0	180.0	133.0	103.0	66.0
15	60.0	55.0	45.0	44.0	24.0	83.0	69.0	470.0	170.0	129.0	97.0	68.0
16	60.0	53.0	45.0	42.0	23.0	88.0	83.0	506.0	177.0	129.0	110.0	68.0
17	60.0	54.0	47.0	42.0	23.0	78.0	108.0	484.0	177.0	121.0	117.0	68.0
18	60.0	55.0	48.0	42.0	24.0	74.0	146.0	431.0	176.0	118.0	114.0	67.0
19	60.0	54.0	45.0	40.0	24.0	67.0	195.0	357.0	169.0	132.0	107.0	69.0
20	60.0	52.0	46.0	40.0	24.0	71.0	222.0	309.0	156.0	117.0	127.0	70.0
21	60.0	52.0	46.0	38.0	26.0	87.0	207.0	288.0	150.0	114.0	122.0	71.0
22	60.0	52.0	46.0	38.0	28.0	91.0	165.0	273.0	150.0	110.0	111.0	73.0
23	60.0	48.0	48.0	36.0	27.0	81.0	166.0	256.0	151.0	109.0	96.0	70.0
24	60.0	49.0	48.0	36.0	28.0	84.0	173.0	246.0	145.0	113.0	104.0	69.0
25	60.0	49.0	48.0	34.0	27.0	85.0	186.0	247.0	142.0	117.0	101.0	72.0
26	60.0	50.0	48.0	34.0	27.0	69.0	207.0	240.0	146.0	115.0	99.0	70.0
27	60.0	49.0	48.0	32.0	30.0	66.0	192.0	221.0	145.0	114.0	101.0	70.0
28	60.0	48.0	48.0	32.0	36.0	64.0	175.0	203.0	142.0	114.0	99.0	69.0
29	60.0	48.0	48.0	30.0	38.0	64.0	161.0	185.0	140.0	114.0	97.0	69.0
30	60.0	47.0	48.0	30.0	0.0	64.0	149.0	177.0	135.0	113.0	98.0	70.0
31	60.0	0.0	48.0	28.0	0.0	62.0	0.0	165.0	0.0	119.0	95.0	0.0
TOTAL*	1872.0	1609.0	1448.0	1294.0	720.0	2018.0	3470.0	8328.0	5540.0	3869.0	3383.0	2262.0

WATER YEAR TOTAL 35813.0 MEAN 97.85

*CFS - Days

Preliminary Record

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

PROVISIONAL DATA

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1			367									
2			375									
3			428									
4			445									
5			---									
6			---									
7			---									
8			---									
9			---									
10			---									
11			---									
12			---									
13			---									
14			---									
15			---									
16			---									
17			---									
18			---									
19			---									
20			---									
21			---									
22			---									
23			---									
24			---									
25			---									
26			---									
27			---									
28			---									
29			---									
30			---									
31			---									
MONTH			404									

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

PROVISIONAL DATA

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
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16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

PROVISIONAL DATA

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
MONTH												
YEAR	---	---	404									

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

SPRINGS AND SEEPS

1.2.1.2 Springs and Seeps

Flow and field measurement data were sampled at 22 springs and 1 seep during June through November 1984 and are presented in this section in tabular and plot form. Monitoring of these springs are required by the Interim Monitoring Program (IMP) and the Water Augmentation Plan (WAP); see Table 1.2-1. The IMP sampling requirements include flows and field measurements (temperature, pH and conductivity) taken monthly at five springs (WS04, WS06, WS07, WS12 and WS13). Monthly measurements are required at springs WS01, WS02, WS03, WS08, WS09, WS10, WS36, WS66, and seep WS11 if not diverted for seasonal irrigation; refer to Figure 1.2.1.2-1 for location. Nine springs located around the outer boundaries of C-b Tract can be referenced on Figure 1.2-1 (jacket map).

Tables 1.2.1.2-1 through 1.2.1.2-3 consist of data sampled during this report period for C-b Tract springs for flow and field measurements and flow of off-Tract springs.

Time series plots of flow data from 28 springs and 1 seep are presented for the period from 1979 through November 1984. See Table 1.2.1.2-4 for the page number of each spring plot.

Table 1.2-1 lists water stations and sampling schedule during the interim period.

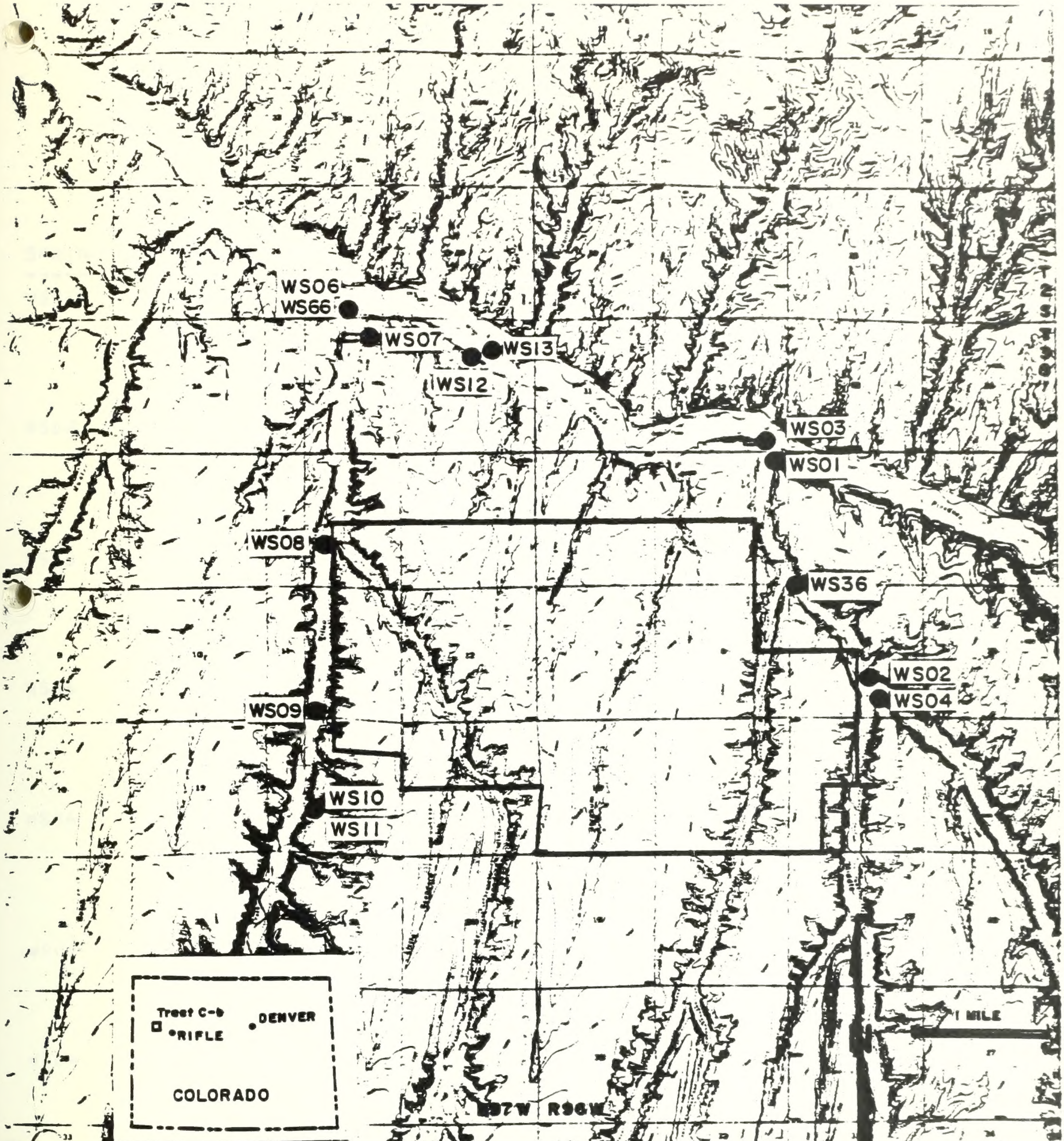


Figure I.2.I.2-I NEAR-TRACT SPRINGS AND SEEPS MONITORING NETWORK

TABLE 1.2.1.2-1

CB-TRACT
WATER FLOW AND FIELD MEASUREMENTS
SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

SPRING	YR	MO	DY	ST	FLOW (CFS)	WATER TEMP (C)	PH	FIELD FLUOIRDE (MG/L)	SPEC COND (UMHOS)	DISSOLVED OXYGEN (MG/L)
WS01	84	6	19		.00	9.0	7.7		1340.0	7.4
		8	1	LAB	.00		7.7		1400.0	
					3.80	8.5	7.8		1360.0	
			25		2.98	9.0	7.7		1381.0	6.3
		11	1		4.22	8.0	7.5		1360.0	5.8
WS02	84	6	21		.15	10.0	8.0		1220.0	8.5
		8	1	LAB	.00		8.0		1210.0	
					.16		7.8		1200.0	
		9	25		.16	10.0	7.9		1205.0	8.3
		11	1		.14	9.0	7.6		1230.0	8.7
WS03	84	6	19		4.60	12.5	7.8		1360.0	9.6
			25		4.80					
		8	1		2.30	9.0	7.6		1430.0	
		9	25		5.34	9.5	7.5		1438.0	6.4
		11	1		1.93	8.5	7.5		1390.0	5.4
WS04	84	6	21		1.02	11.0	8.1		1240.0	8.4
			25		1.59					
		8	1		2.80	11.0	8.2		1220.0	
		9	25	INACSS	.00	9.0	7.8		1220.0	8.5
		11	1		2.90	9.0	7.7		1200.0	8.7
WS06	84	6	19		1.88	17.5	7.9		1340.0	6.7
			25		3.18					
		9	14		.79	10.0	7.6		1460.0	4.8
			25		3.76	10.0	7.4		1456.0	4.4
		11	1		2.85	10.0	7.4		1440.0	3.9
WS07	84	6	19		.37	11.0	7.5		1430.0	7.2
		9	14		.37	10.0	7.7		1430.0	6.0
			25		.27	9.0	7.5		1463.0	6.5
		11	1		.26	9.0	7.6		1430.0	
WS08	84	6	19		.19	9.5	7.5		1370.0	5.0
			25		.28					

DRY = SPRING DRY
NOFLME = NO FLUME
- = LESS THAN
DIVERT = FLOW DIVERTED FOR IRRIGATION
INACSS = INACCESSIBLE

TABLE 1.2.1.2-1 (Cont'd) Revised 3/11/85

CB-TRACT
WATER FLOW AND FIELD MEASUREMENTS
SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

SPRING	YR	MO	DY	ST	FLOW (CFS)	WATER TEMP (C)	PH	FIELD FLUOIRDE (MG/L)	SPEC COND (UMHOS)	DISSOLVE OXYGEN (MG/L)
WS08	84	8	1	LAB	.00		7.7		1430.0	
					.10	10.0	7.7			
					.05	10.0	7.7			
		9	25		.23	10.0	7.6		1334.0	4.1
		11	1		.01	9.0	7.4		1450.0	4.6
WS09	84	6	19		.22	13.5	7.7		1360.0	8.5
		8	1	LAB	.00		7.9		1400.0	
					.17	11.0	7.8		1360.0	
		9	25		.12	7.0	7.7		1405.0	6.6
		11	1		.08	9.0	7.6		1390.0	6.2
WS10	84	6	19		.56	17.0	7.9		1300.0	13.0
		9	25		.42	8.0	7.9		1320.0	7.5
		11	1		.32	5.5	7.9		1330.0	9.9
WS11	84	6	19		.47	10.0	7.6		1320.0	6.6
		8	1	LAB	.00		7.7		1370.0	
					.50	9.5	7.7		1390.0	
		9	25	INACSS	.00	8.0	7.6		1328.0	7.5
WS12	84	6	19		.42	14.0	8.0		1550.0	8.8
		8	1	LAB	.00		8.2		1630.0	
					.36	12.0	7.9		1580.0	
		9	25		.08	11.0	8.0		1570.0	9.6
			26		.16		7.3	8.6	1580.0	
		11	1		.19	11.0	7.9			9.0
WS13	84	6	19		.40	9.5	7.7		1560.0	5.0
			20		.35	8.0	7.6	8.3	1520.0	
		8	1	LAB	.00		7.9		1650.0	
					.31	9.0	7.7		1600.0	
		9	25		.34	9.5	7.6		1578.0	5.7
		11	1		.44	10.5	7.6			5.7
WS22	84	8	31		.37					
		9	21		.36					

DRY = SPRING DRY
NOFLME = NO FLUME
\- = LESS THAN
DIVERT = FLOW DIVERTED FOR IRRIGATION
INACSS = INACCESSIBLE

TABLE 1.2.1.2-1 (Cont'd)

CB-TRACT
WATER FLOW AND FIELD MEASUREMENTS
SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

SPRING	YR	MO	DY	ST	FLOW (CFS)	WATER TEMP (C)	PH	FIELD FLUOIRDE (MG/L)	SPEC COND (UMHOS)	DISSOLVE OXYGEN (MG/L)
WS23	84	8	31		2.09					
		9	21		2.16					
WS26	84	8	31		.30					
		9	21		.23					
WS30	84	7	11		12.30					
		10	11		3.44					
WS31	84	8	31		6.00					
		9	21		6.00					
WS34	84	8	31		.82					
		9	21		.73					
WS36	84	6	21		6.00	11.0	8.2		1350.0	9.0
			25		5.60					
		8	1	LAB	.00		8.2		1340.0	
					6.20	10.5	8.2		1310.0	
					6.20	10.5	8.2		1310.0	
		9	25		5.55	11.0	8.0		1320.0	8.7
		11	1		6.09	7.5	8.0		1350.0	9.1
WS66	84	6	19		1.04					
		9	14		.01	12.0	7.7		1530.0	3.6
			25		.99	8.0	8.3		1320.0	9.3

DRY = SPRING DRY
NOFLME = NO FLUME
- = LESS THAN
DIVERT = FLOW DIVERTED FOR IRRIGATION
INACSS = INACCESSIBLE

BLANK

TABLE 1.2.1.2-3

CB-TRACT
STEVENS RECORDER WATER FLOW FOR SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

YR	MO	DY	WS04 FLOW (CFS)	WS11 FLOW (CFS)	WS12 FLOW (CFS)
84	5	1	.78	.37	.23
		2	.82	.37	.25
		3	.78	.37	.22
		4	.78	.37	.22
		5	.78	.37	.22
		6	.76	.37	.22
		7	.76	.37	.22
		8	.76	.37	.22
		9	.76	.37	.20
		10	.73	.37	.20
		11	.71	.37	.20
		12	.71	.37	.20
		13	.71	.37	.22
		14	.69	.37	.22
		15	.69	.37	.22
		16	.69	.37	.22
		17	.67	.37	.26
		18	.67	.38	.25
		19	.67	.38	.25
		20	.67	.38	.23
		21	.67	.38	.22
		22	.67	.39	.20
		23	.62	.39	.47
		24	.67	.39	.47
		25	.67	.39	.47
		26	.67		.47
		27	.67		.47
		28	.71		.45
		29	.71	.45	.45
		30	1.04	.55	.45
		31	1.28	.55	.43
	6	1	1.51	.53	.48
		2	1.48	.53	.45
		3	1.45	.53	.43
		4	1.59	.53	.43
		5	1.68	.60	.43
		6	1.84	.56	.45
		7	1.93	.56	
		8	2.26	.56	
		9	2.09	.56	.54
		10	2.09	.53	.50
		11	2.13	.53	.50
		12	2.16	.53	.48
		13	2.16	.53	
		14	2.06	.53	.48
		15	2.09	.56	

TABLE 1.2.1.2-3 (Cont'd)

CB-TRACT
STEVENS RECORDER WATER FLOW FOR SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

YR	MO	DY	WS04 FLOW (CFS)	WS11 FLOW (CFS)	WS12 FLOW (CFS)
84	6	16	2.13	.56	.50
		17	2.19	.56	.50
		18	2.19	.56	.48
		19	2.19	.56	.48
		20	2.19	.56	.48
		21	2.23	.56	.48
		22	2.16	.56	.47
		23	2.16	.56	.47
		24	2.16	.56	.45
		25	2.19	.56	.45
		26	2.19	.61	.45
		27	2.19	.61	.45
		28	1.59	.61	.45
		29	1.62	.61	.43
		30	1.68	.61	.43
	7	1	1.71	.64	.45
		2	1.74	.64	.43
		3	1.74	.64	.43
		4	1.77	.64	.43
		5	1.81	.64	.43
		6	1.81	.64	1.15
		7	1.81	.64	2.13
		8	1.90	.64	2.09
		9	1.90	.79	.45
		10	2.03	.68	.45
		11	2.00	.68	.45
		12	1.93	.68	.43
		13	1.93	.68	.43
		14	2.03	.68	.43
		15	2.03	.68	.43
		16	2.03	.68	.43
		17	2.03	.68	.43
		18	2.06	.68	.43
		19	2.09	.61	.43
		20	2.09	.61	.43
		21	2.09	.61	.43
		22	2.16	.62	.43
		23		.62	.43
		24		.62	.43
		25		.62	.43
		26		.62	.43
		27		.62	.43
		28		.62	.43
		29		.62	.43
		30		.62	.43
		31			.43

TABLE 1.2.1.2-3 (Cont'd)

CB-TRACT
STEVENS RECORDER WATER FLOW FOR SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

YR	MO	DY	WS04 FLOW (CFS)	WS11 FLOW (CFS)	WS12 FLOW (CFS)
84	8	1			.43
		2			.45
		3			.45
		4			.43
		5			.43
		6			.43
		7			.43
		8			.43
		9			.43
		10			.43
		11			.43
		12			.43
		13			.43
		14			.43
		15			.43
		16			.43
		17			.43
		18			.43
		19			.43
		20			.45
		21			.45
		22			.45
		23			.43
		24			.43
		25			.43
		26			.43
		27			.43
		28			.43
		29			.43
		30			.43
		31			.43
	9	1			.43
		2			.43
		3			.43
		4			.43
		5			.43
		6			.41
		7			.41
		8			.41
		9			.41
		10			.41
		11			.41
		12			.41
		13			.41
		14			.41
		15			.41

TABLE 1.2.1.2-3 (Cont'd)

CB-TRACT
STEVENS RECORDER WATER FLOW FOR SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

YR	MO	DY	WS04 FLOW (CFS)	WS11 FLOW (CFS)	WS12 FLOW (CFS)
84	9	16			.41
		17			.45
		18			.43
		19			.43
		20			.28
		21			.25
		22			.22
		23			.22
		24			.20
		25			.19
		26			.20
		27		.42	.10
		28		.42	
		29		.42	
		30		.42	
	10	1		.46	
		2		.51	
		3		.44	
		4		.42	
		5		.38	
		6		.38	
		7		.38	
		8		.38	
		9		.38	
		10		.38	
		11		.38	
		12		.42	
		13		.41	
		14		.41	
		15		.39	
		16		.38	
		17		.38	
		18		.38	
		19		.38	
		20		.38	
		21		.38	
		22		.38	
		23		.38	
		24		.38	
		25		.38	
		26		.38	
		27		.38	
		28		.37	
		29		.37	
		30		.37	
		31		.37	

TABLE 1.2.1.2-3 (Cont'd)

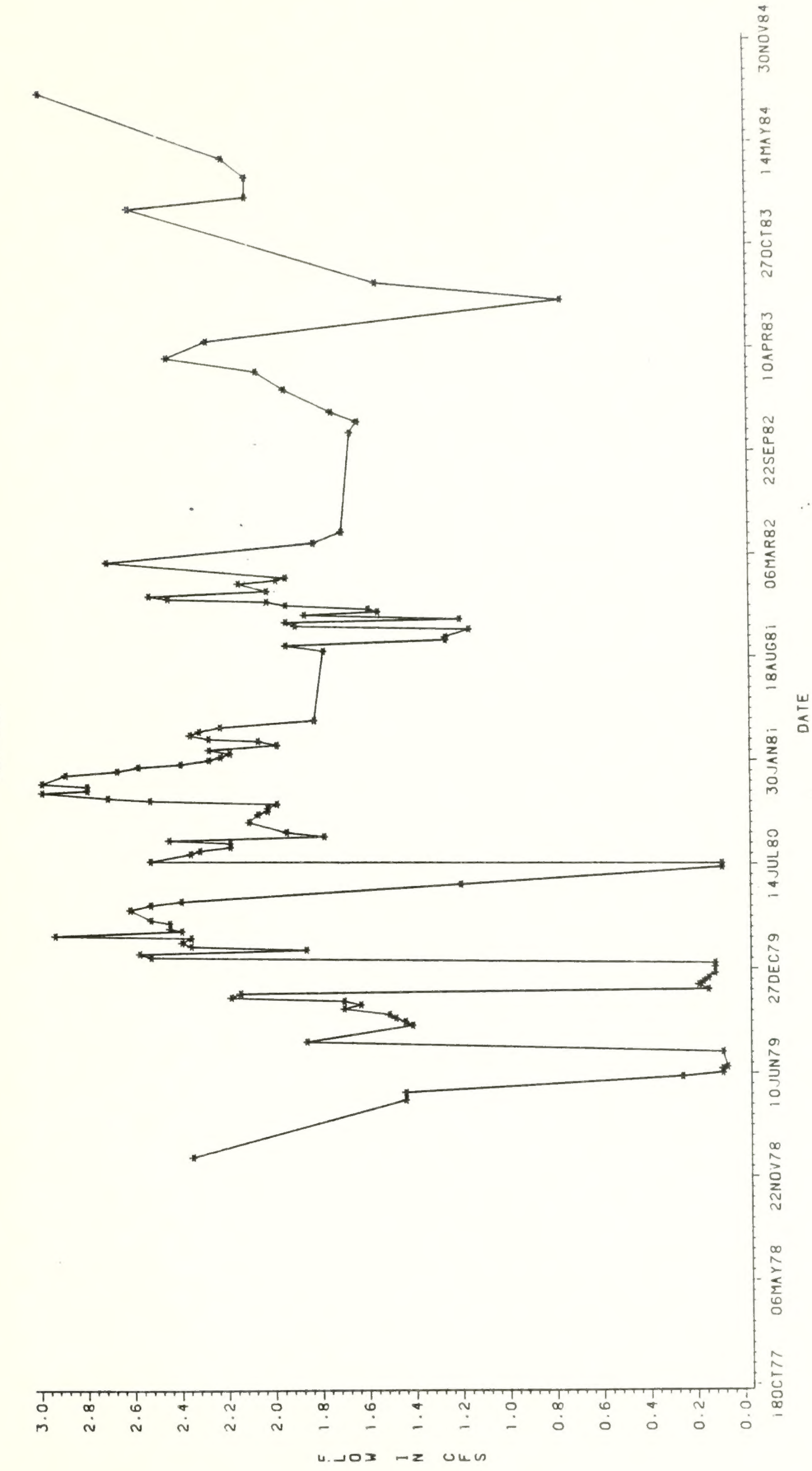
CB-TRACT
STEVENS RECORDER WATER FLOW FOR SPRINGS AND SEEPS
FOR SAMPLE DATE SHOWN

YR	MO	DY	WS04 FLOW (CFS)	WS11 FLOW (CFS)	WS12 FLOW (CFS)
84	11	1		.36	
		2		.35	
		3		.35	
		4		.35	
		5		.35	
		6		.35	
		7		.35	
		8		.35	
		9		.35	
		10		.35	
		11		.35	
		12		.35	
		13		.35	
		14		.35	
		15		.35	
		16		.35	
		17		.35	
		18		.35	
		19		.35	
		20		.35	
		21		.35	
		22		.35	
		23		.35	
		24		.35	
		25		.35	
		26		.35	
		27		.35	
		28		.34	
		30			.17

TABLE 1.2.1.2-4

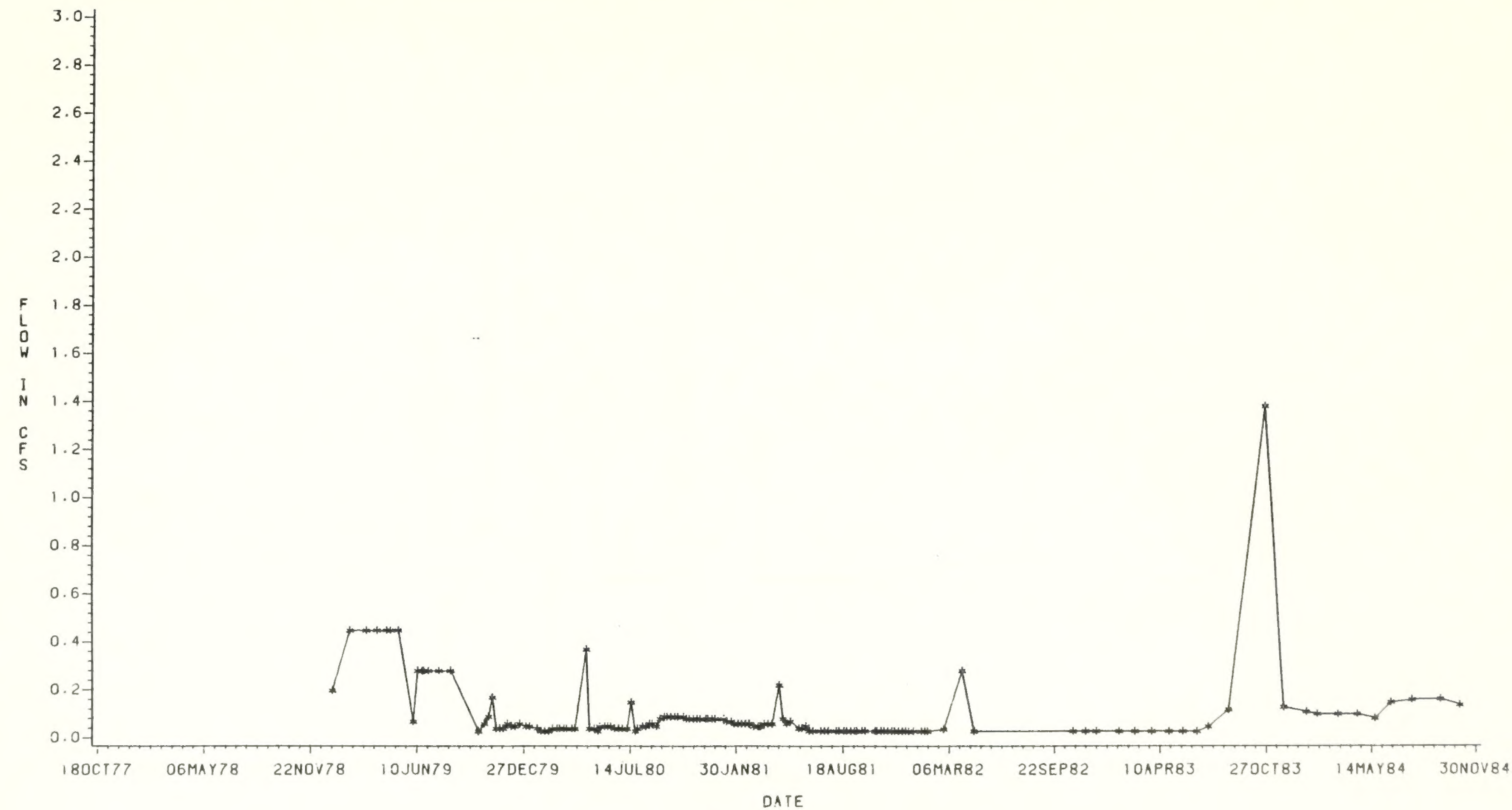
LIST OF SPRING FLOW TIME SERIES PLOTS

TIME SERIES PLOT FOR SPRINGS AND SEEPS



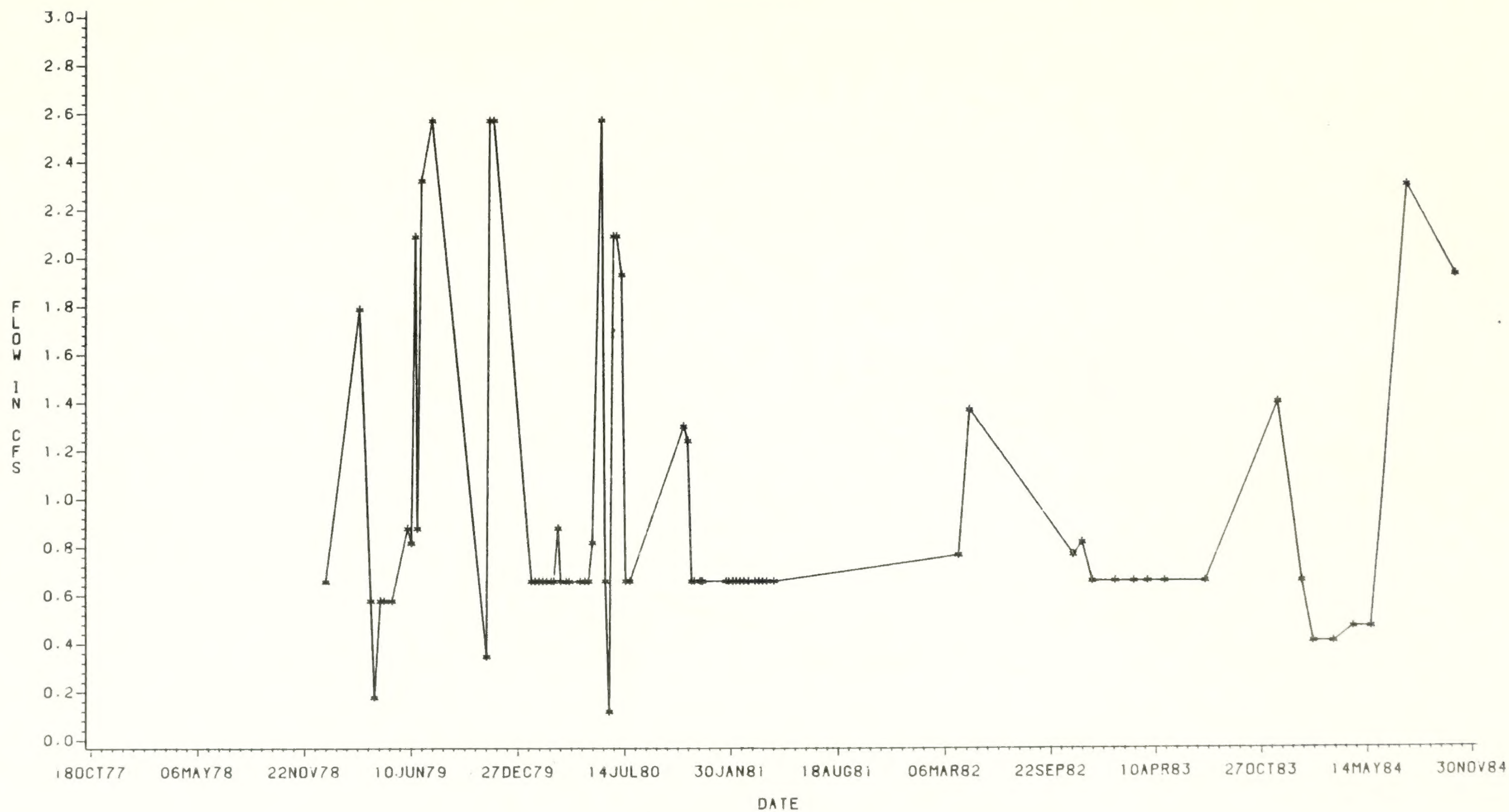
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS02

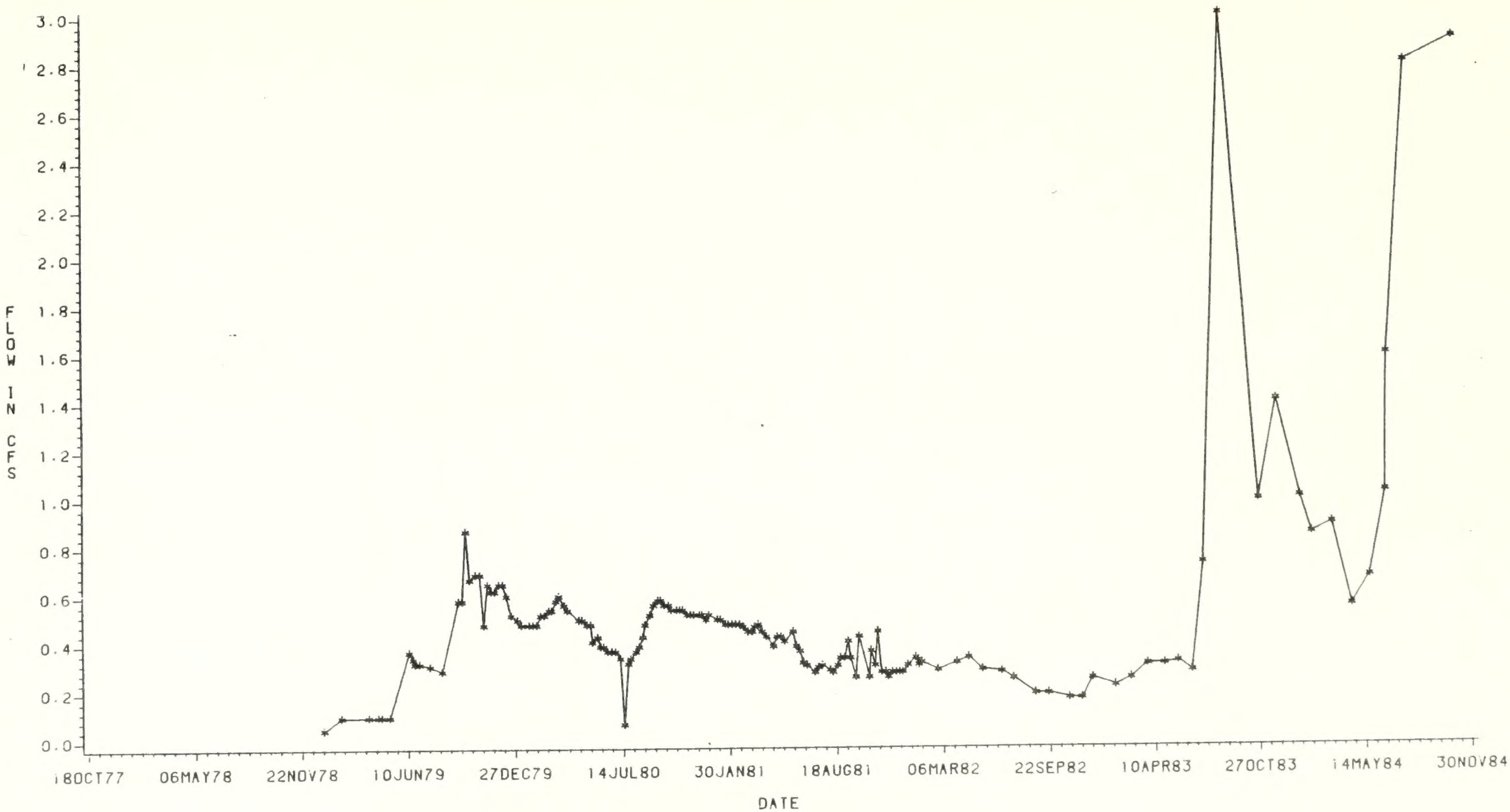


TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS03

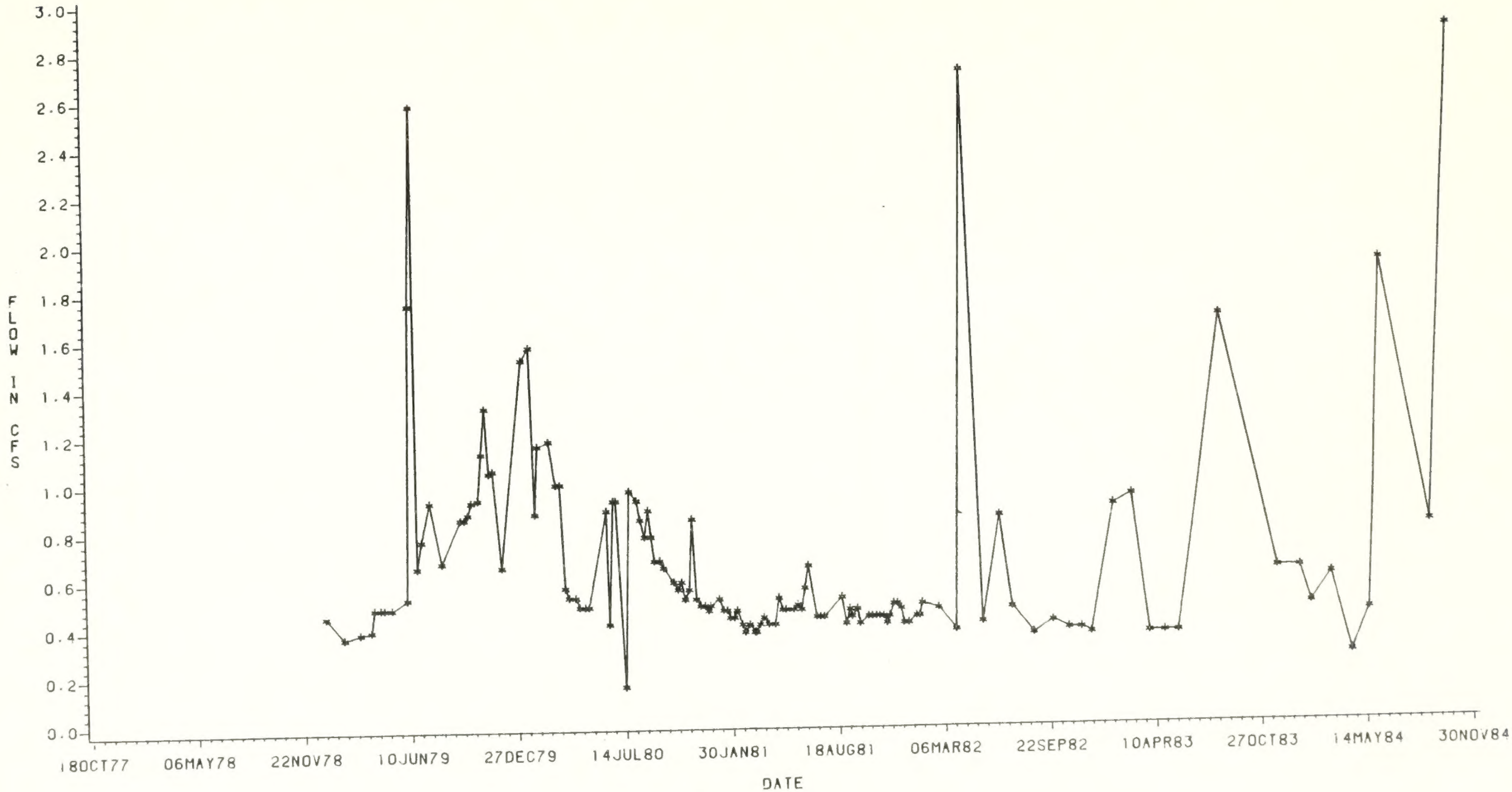


TIME SERIES PLOT FOR SPRINGS AND SEEPS
LOC=WS04



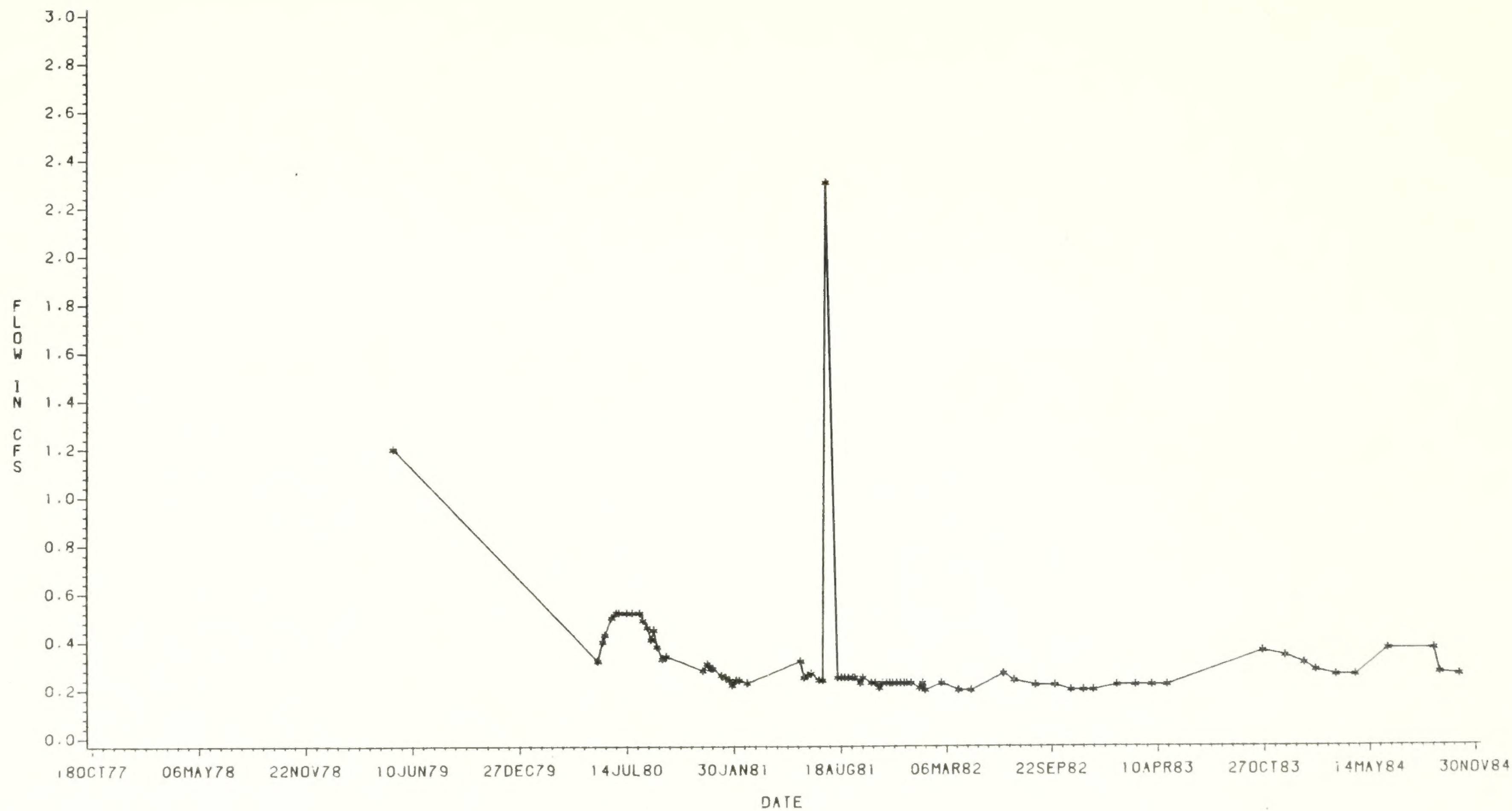
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS06



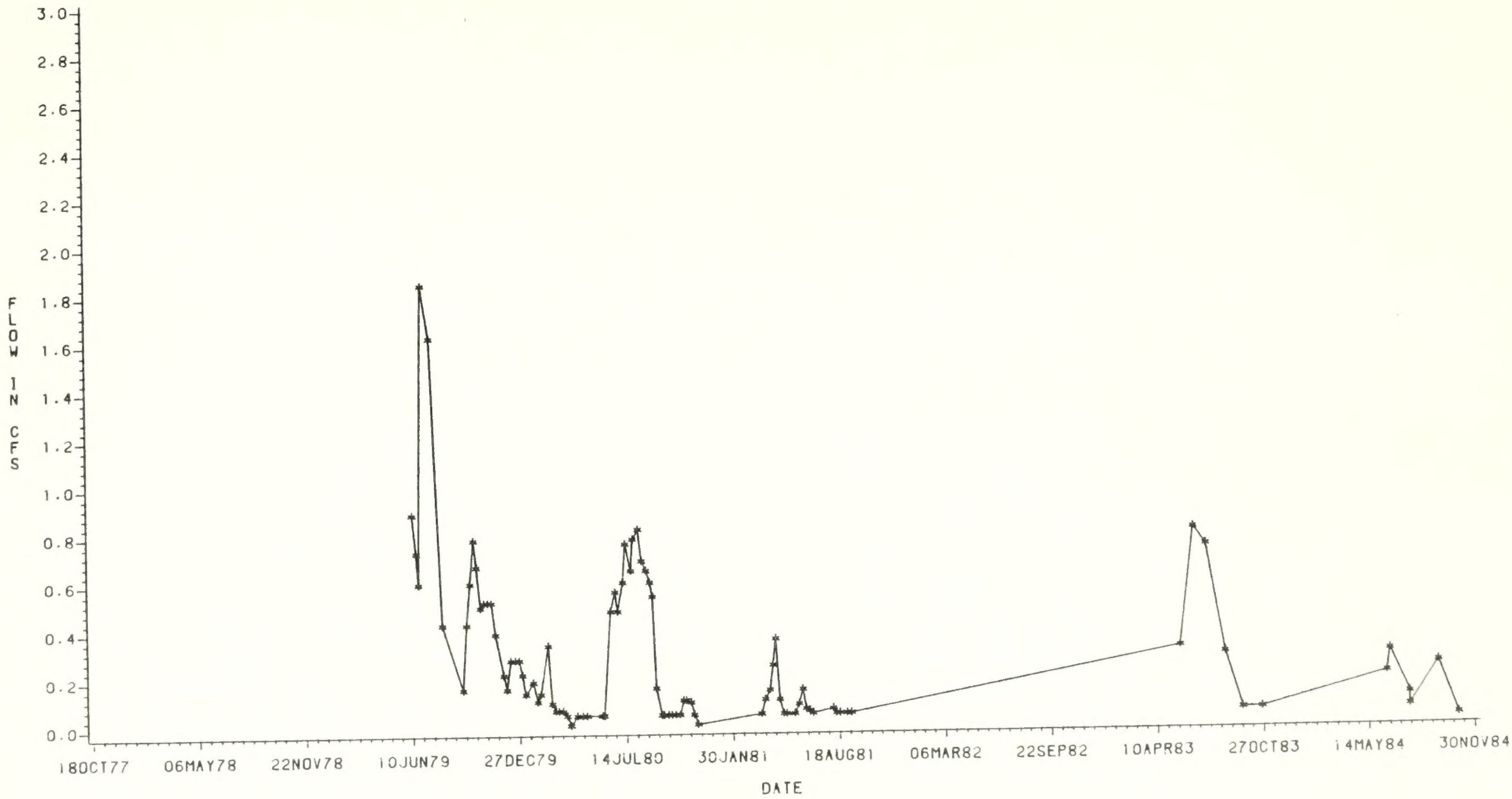
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS07



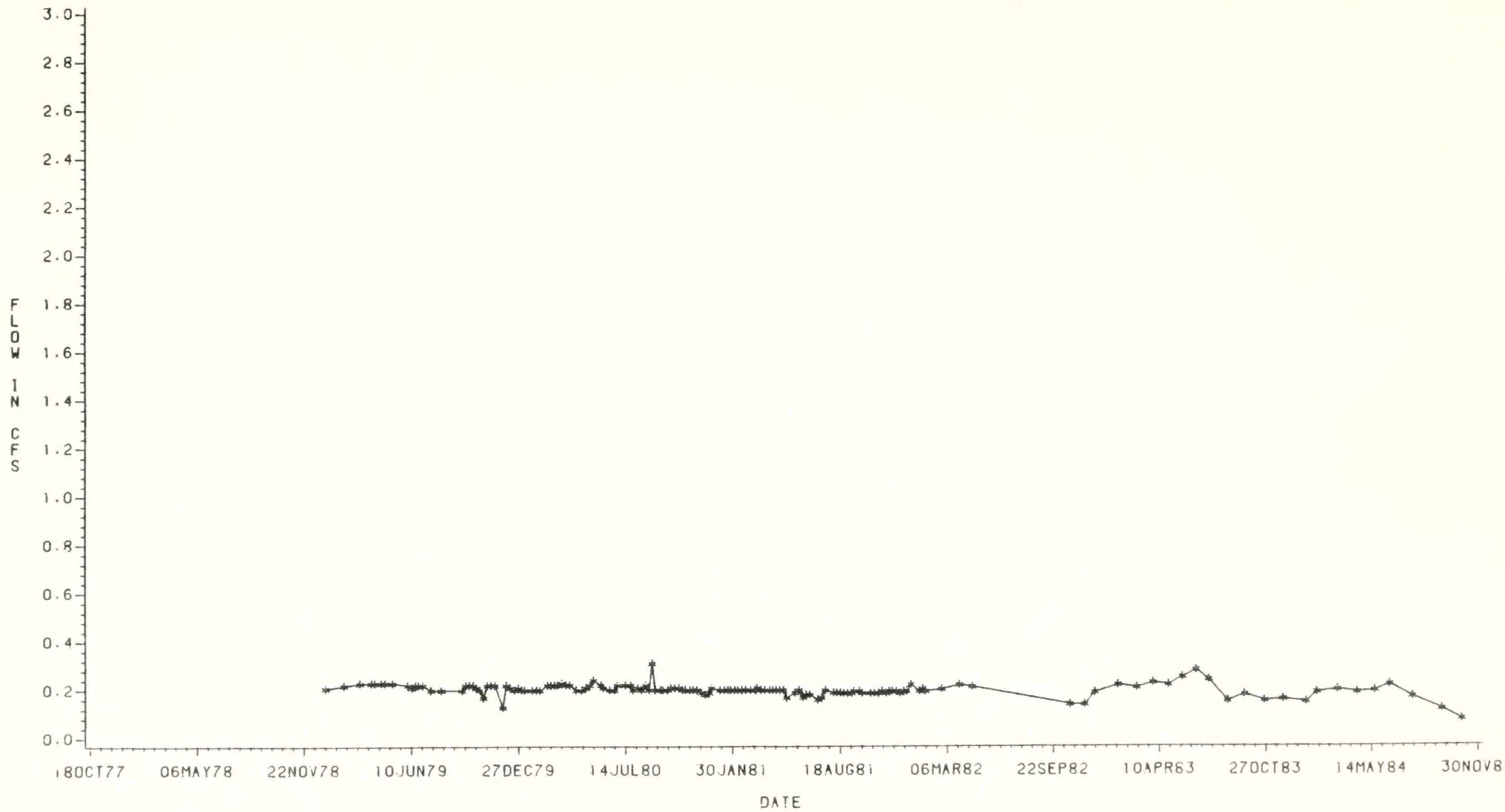
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS08



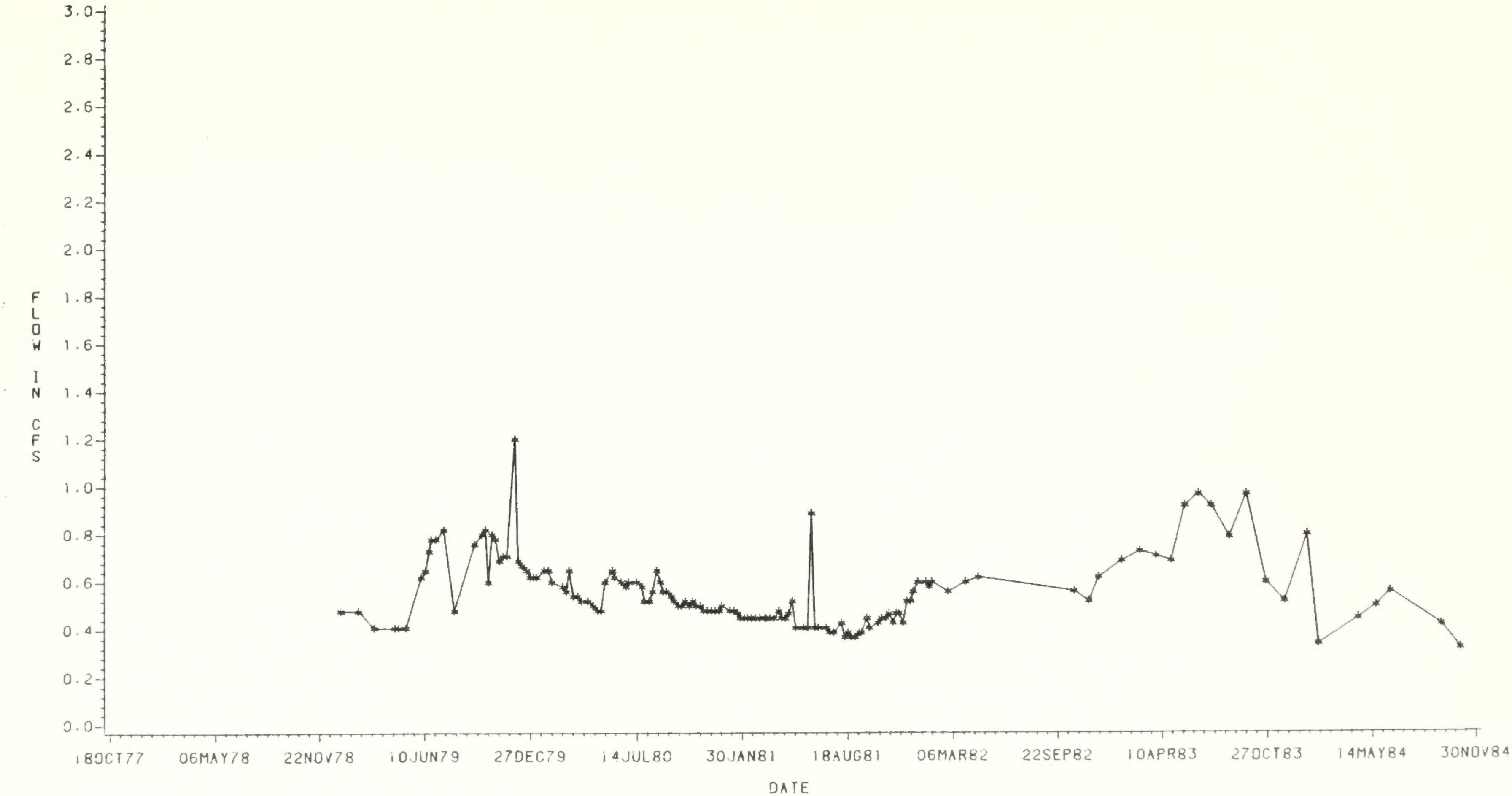
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS09



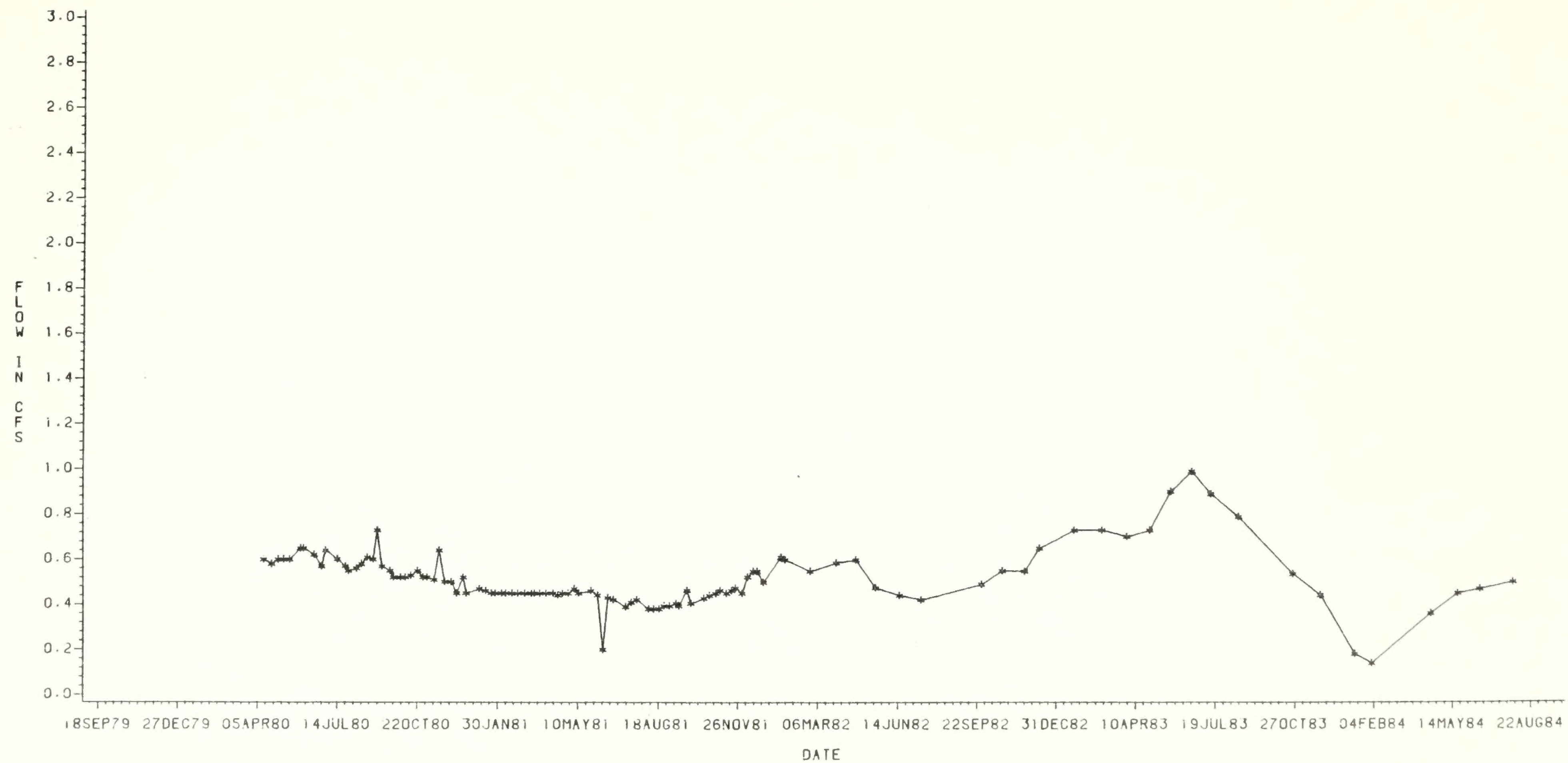
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS10



TIME SERIES PLOT FOR SPRINGS AND SEEPS

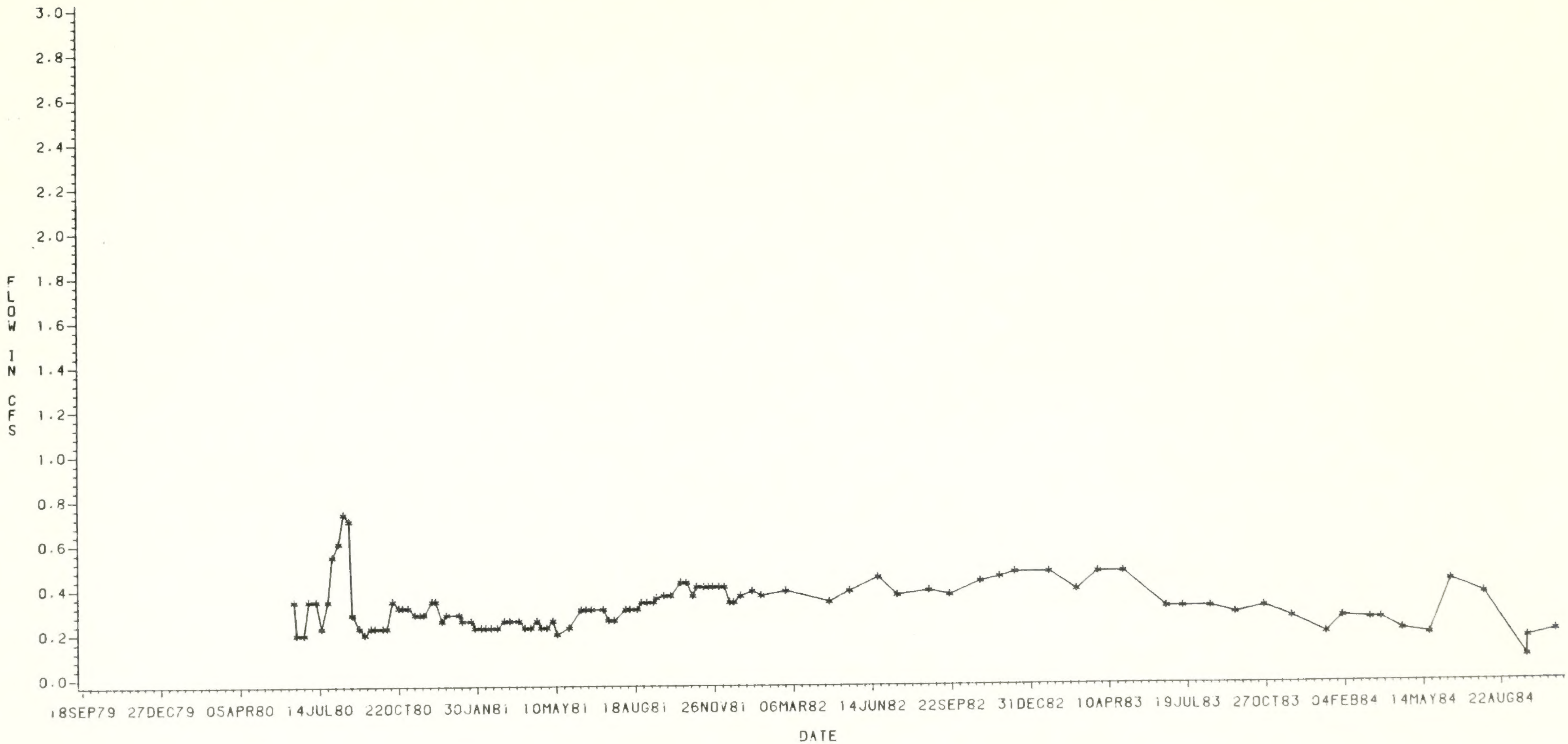
LOC=WS11



I-34

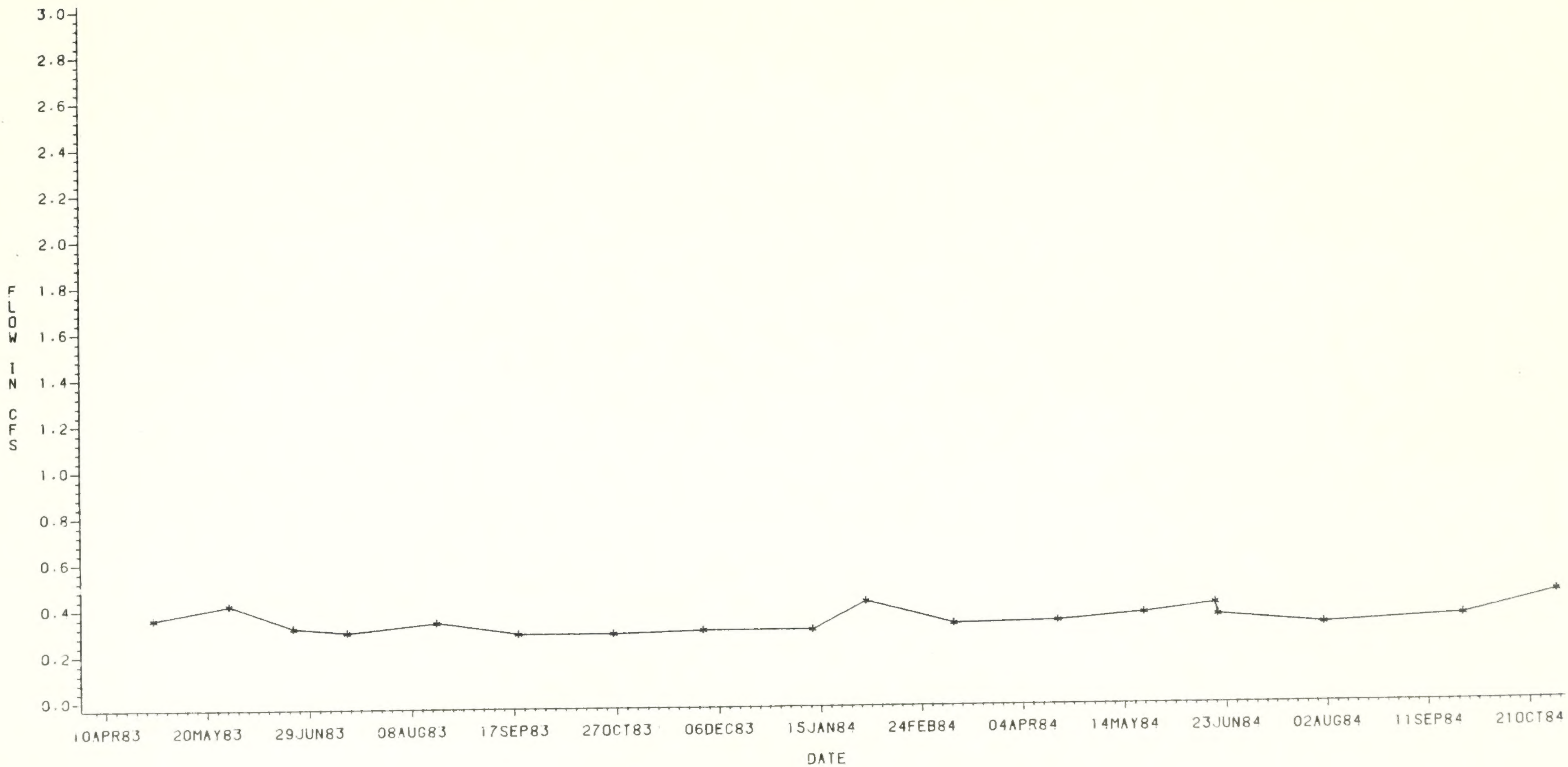
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS12



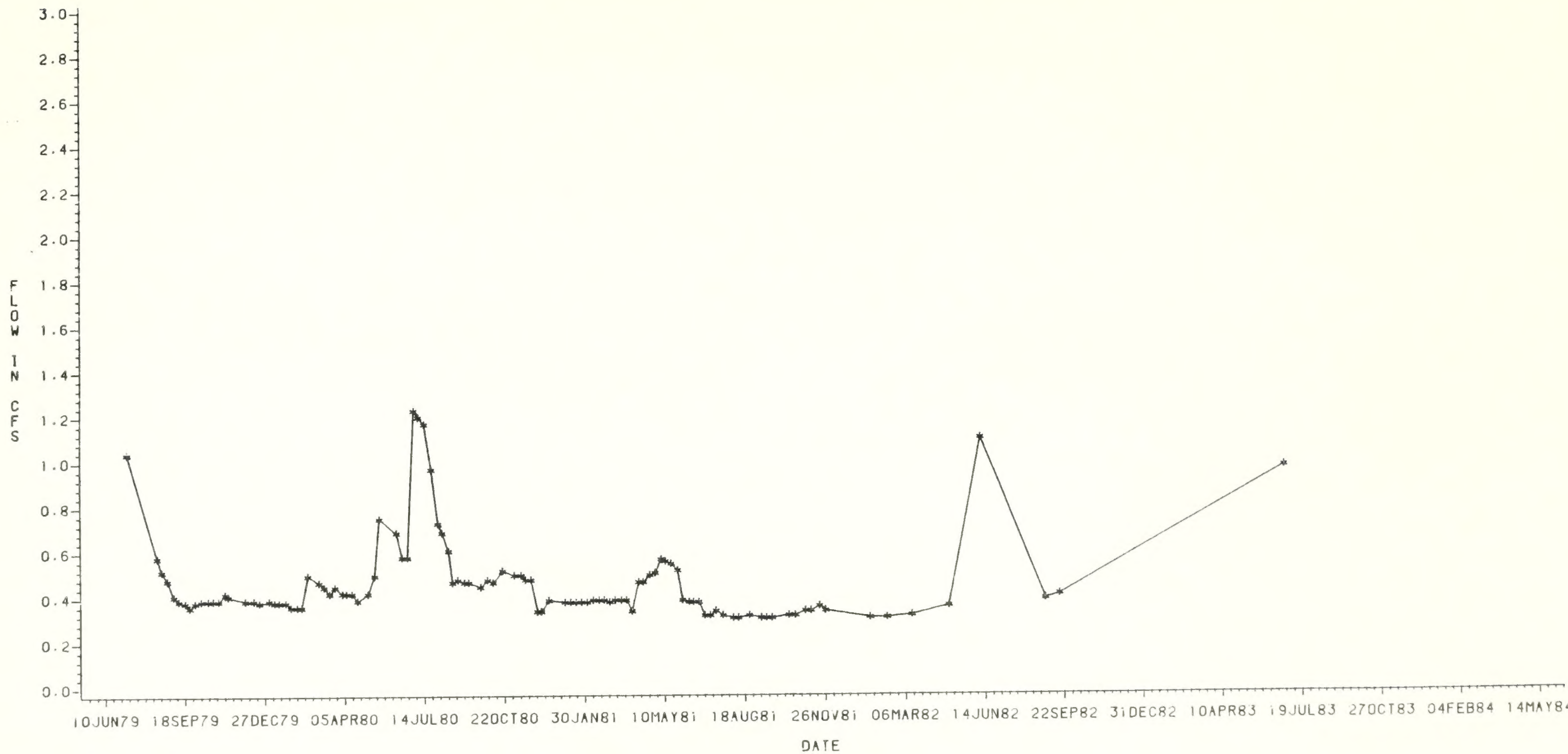
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS13



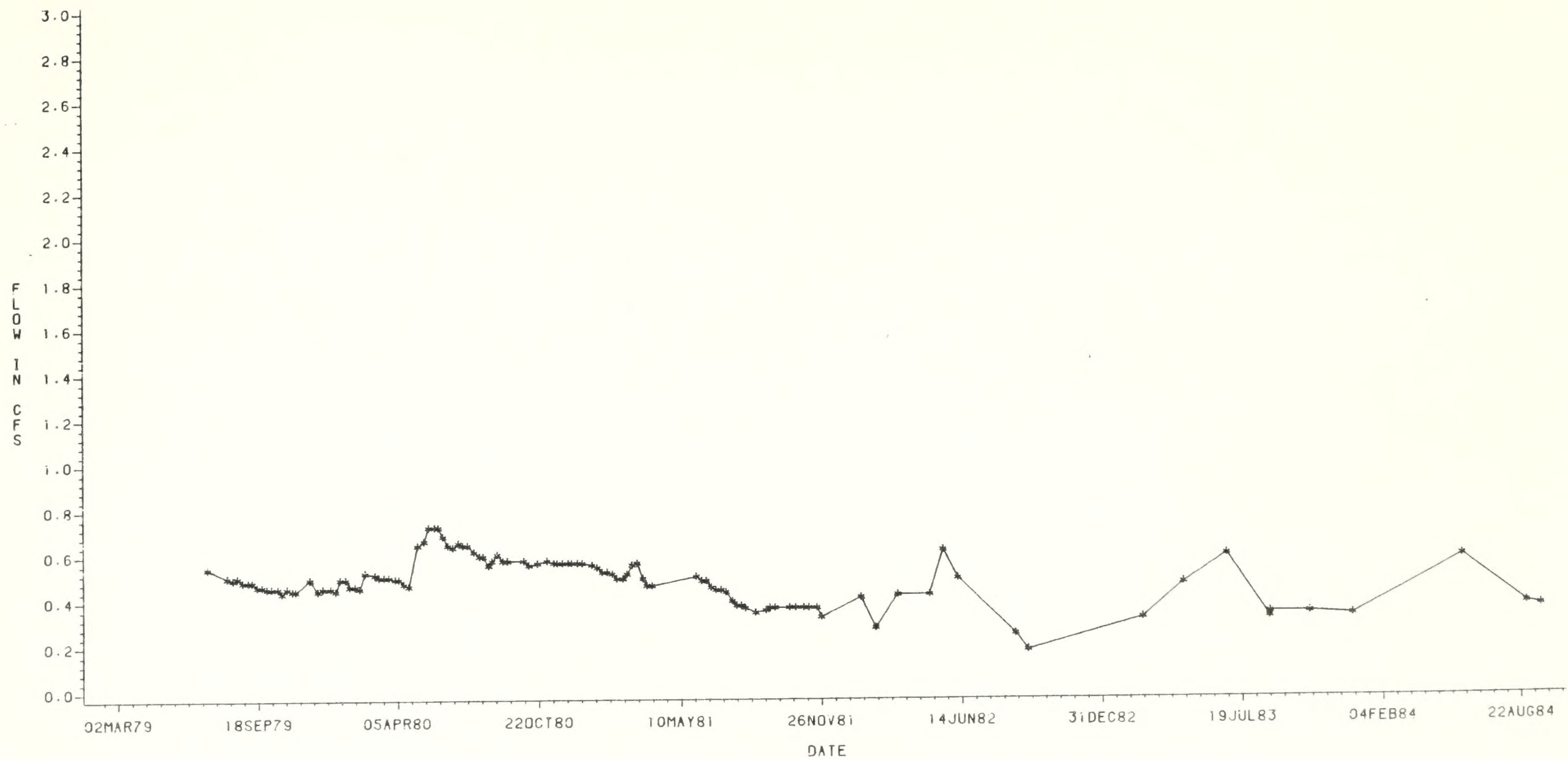
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS21



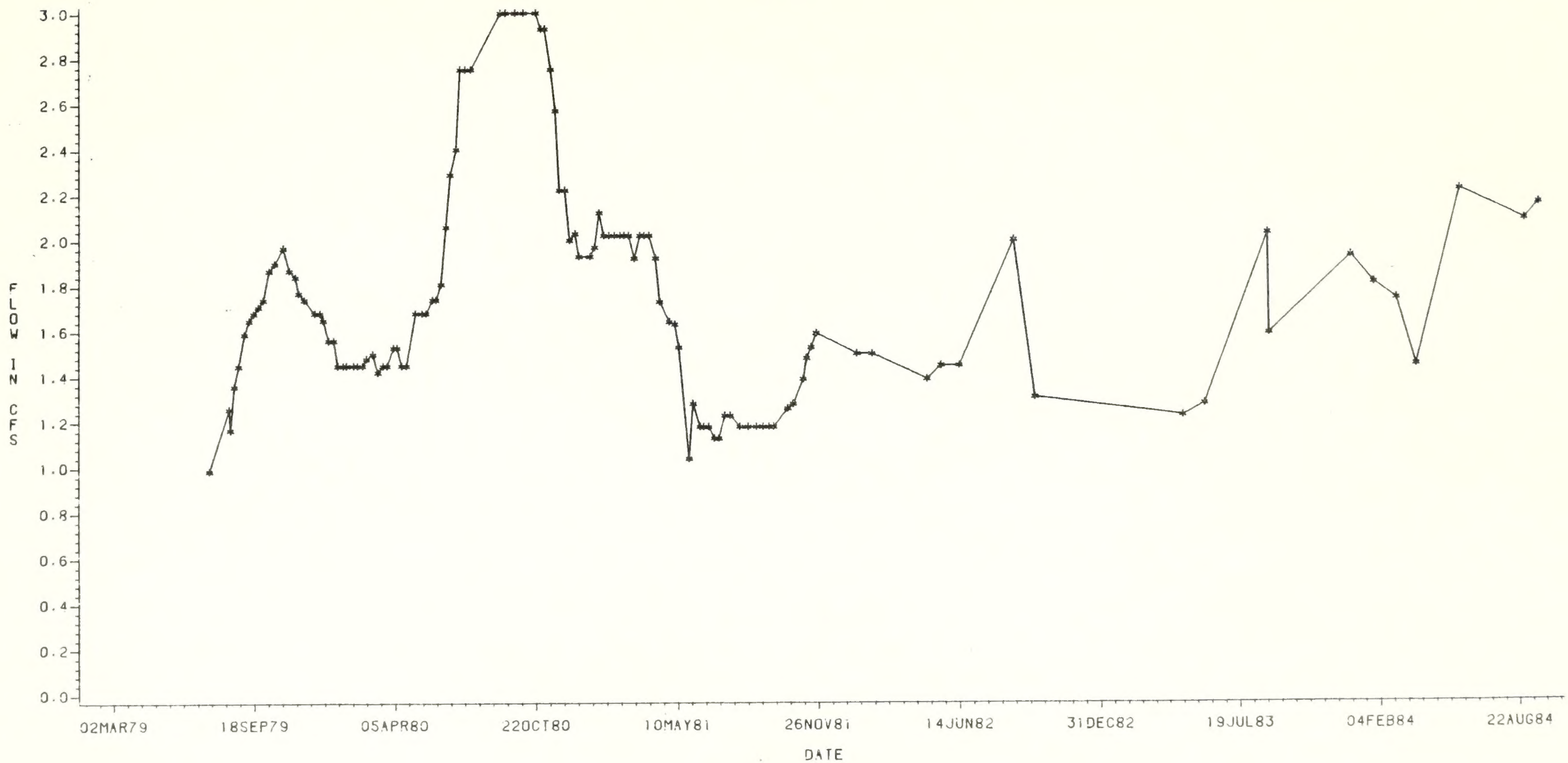
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS22



TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS23

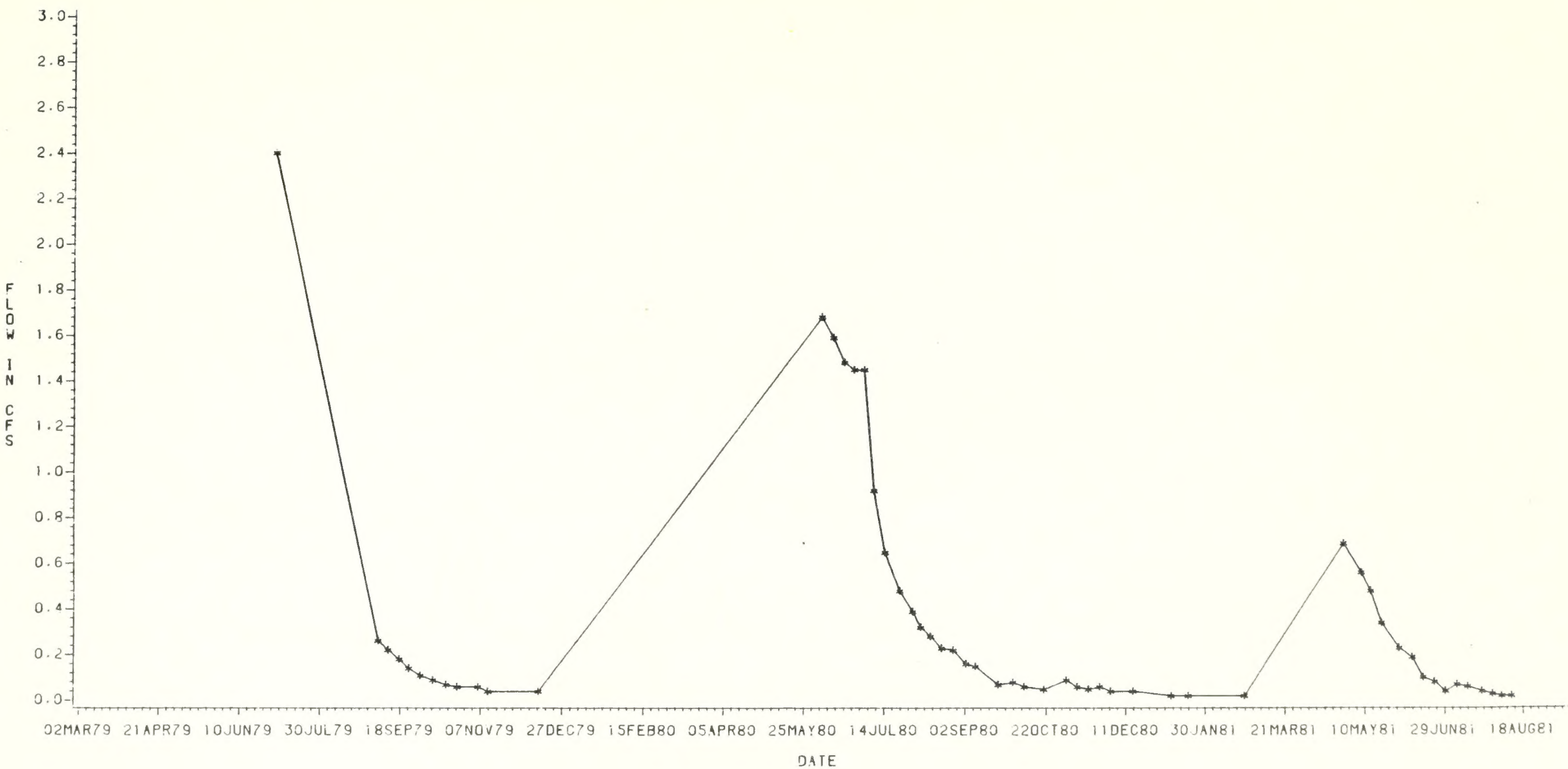


TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS24

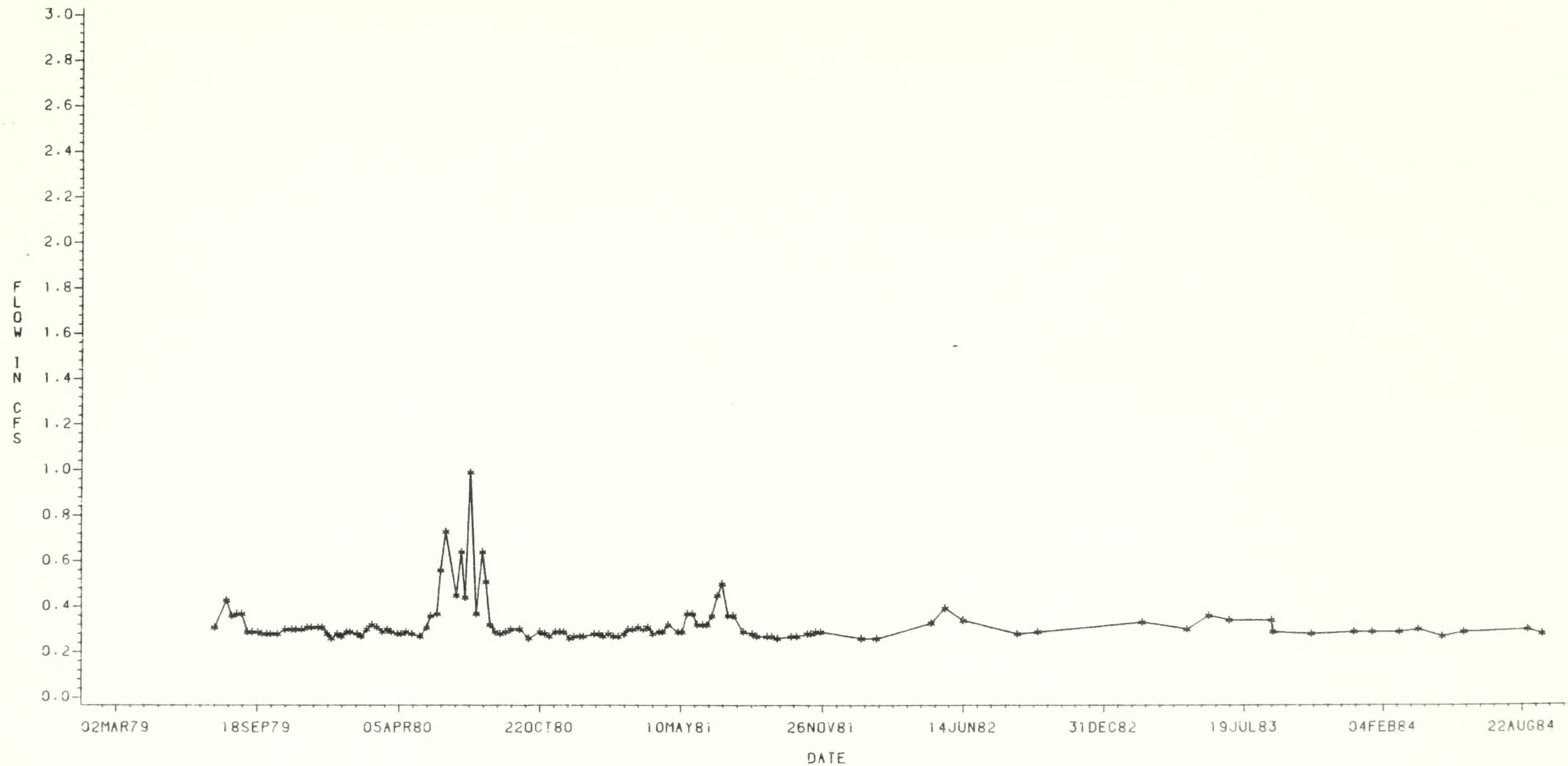
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS25



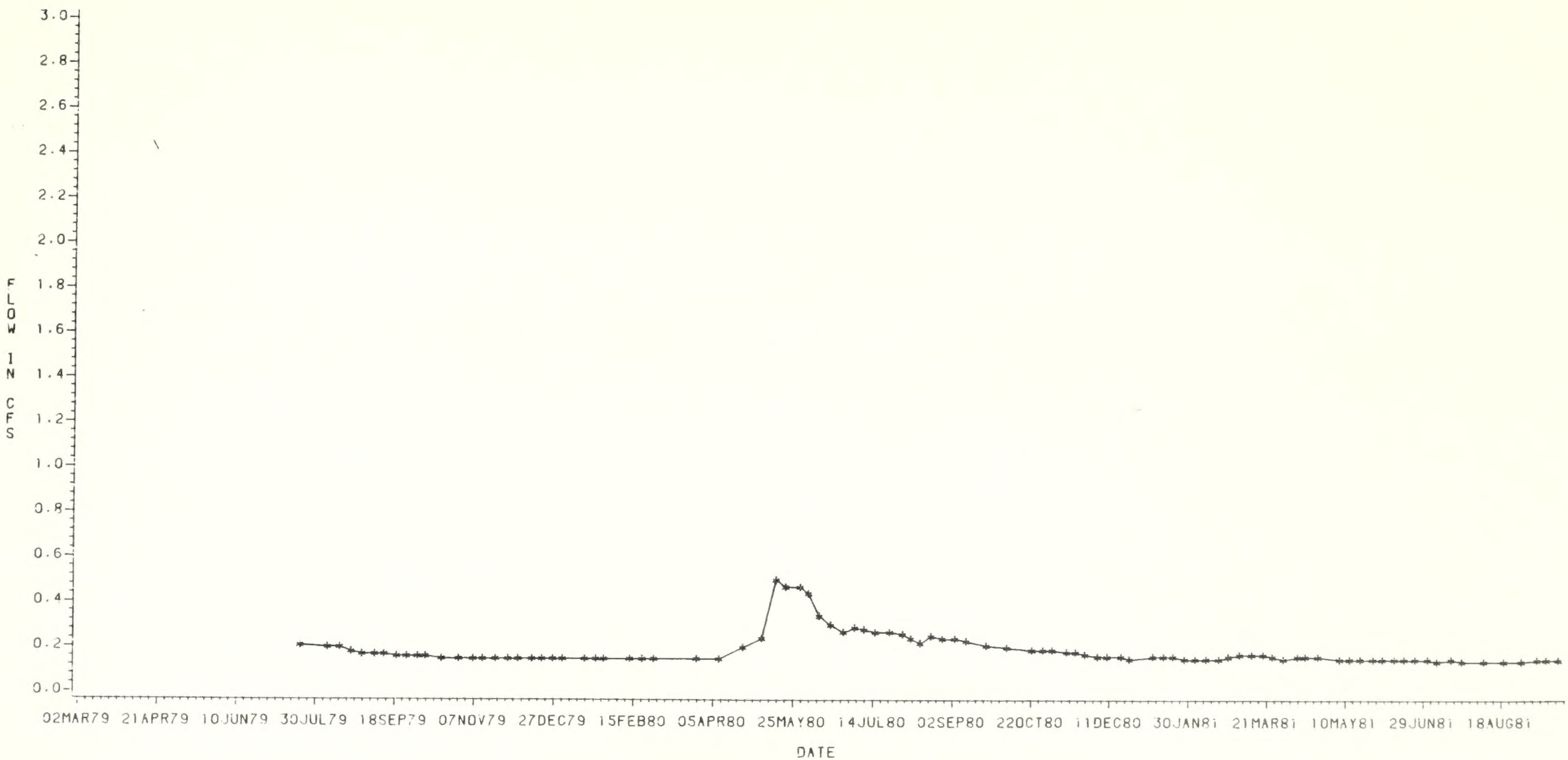
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS26



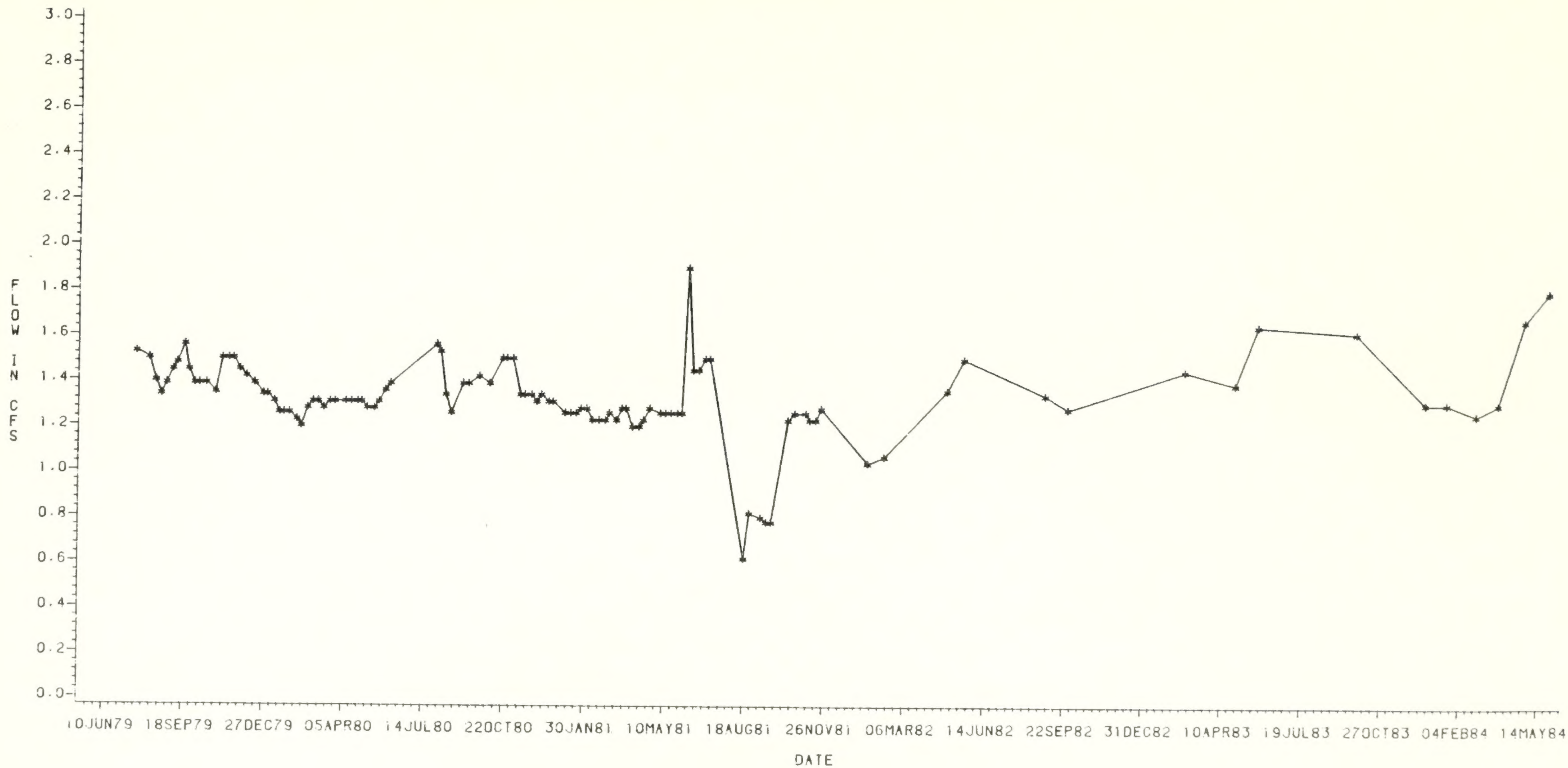
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS27



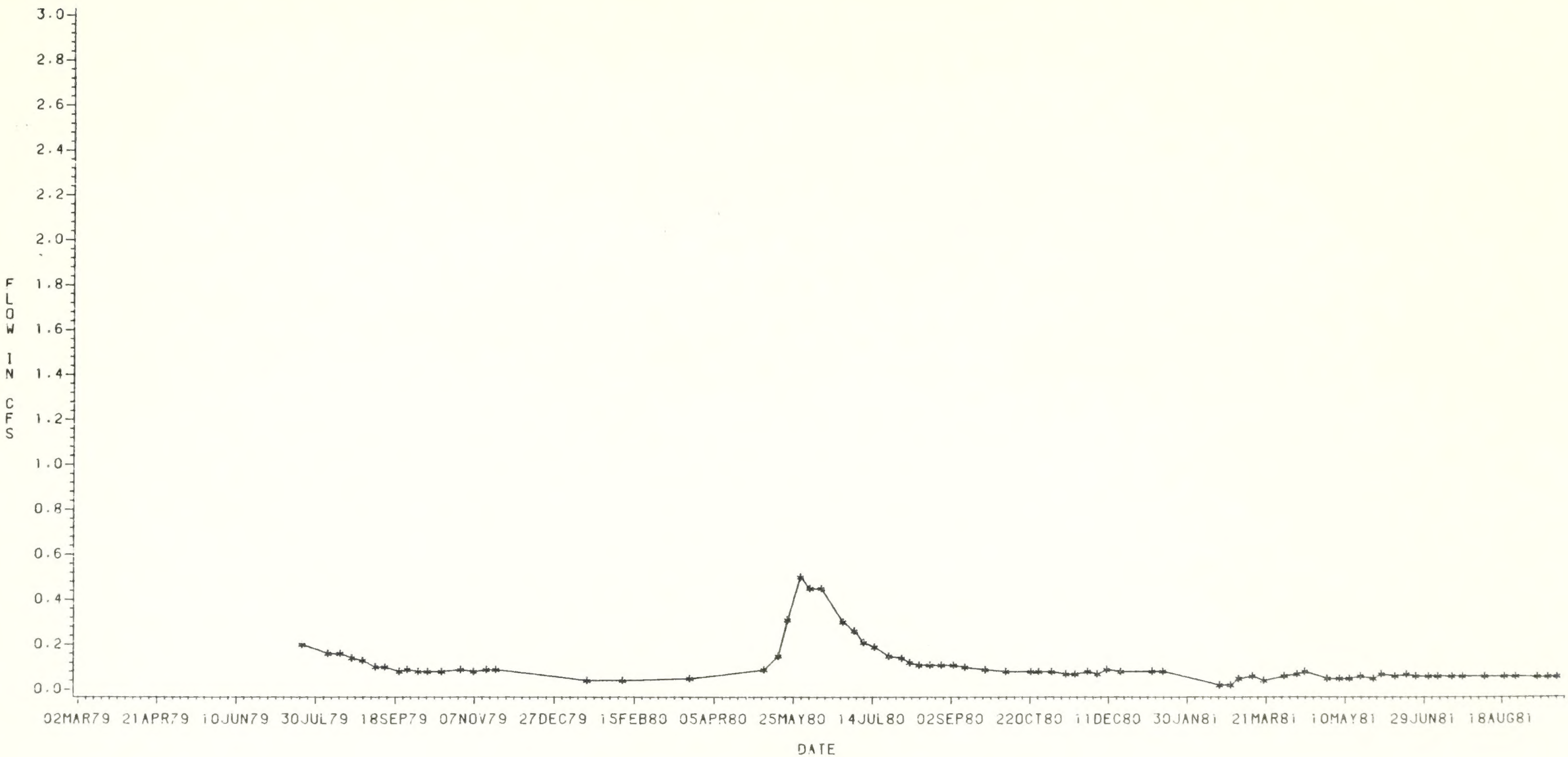
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS28



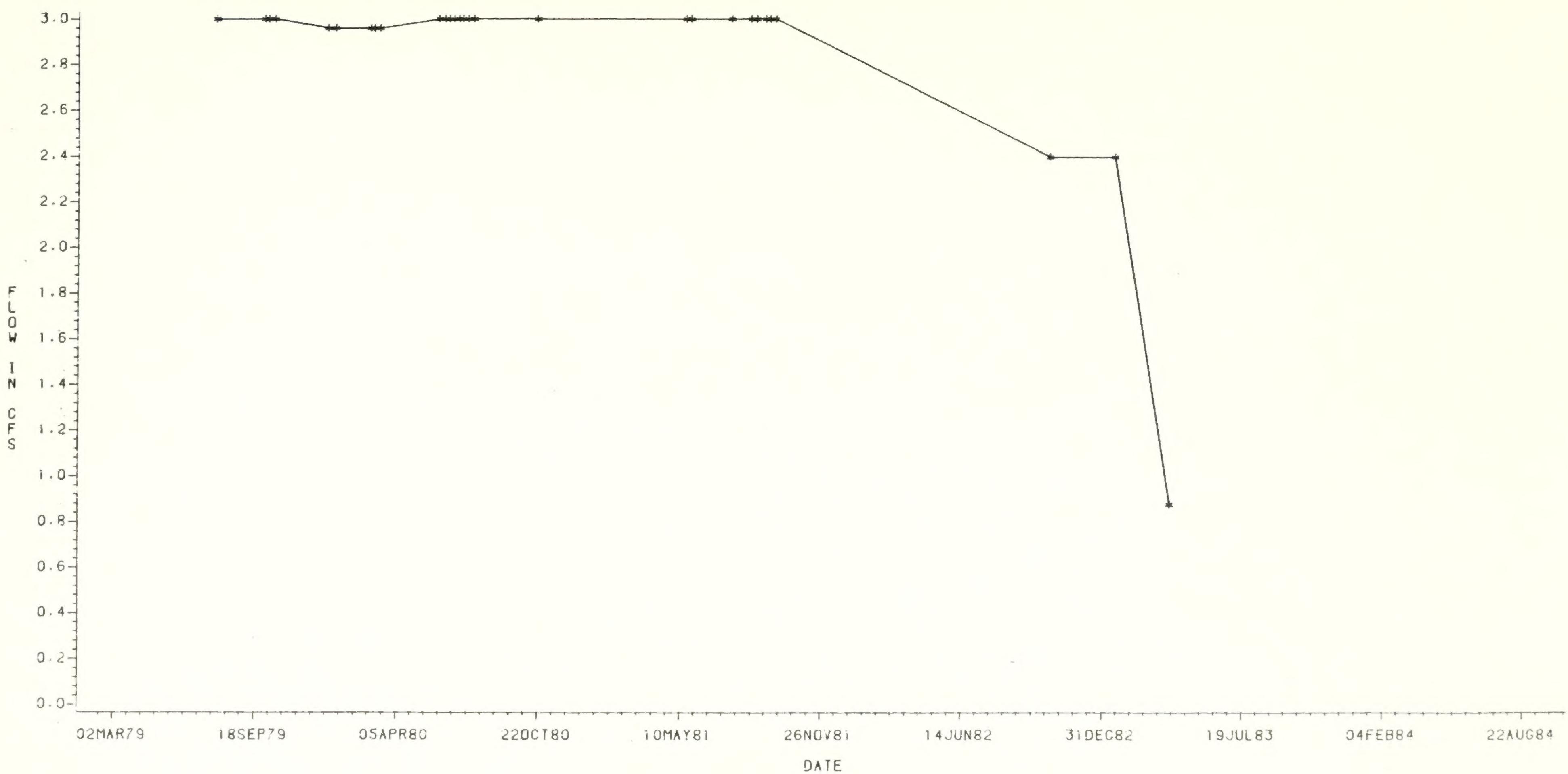
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS29



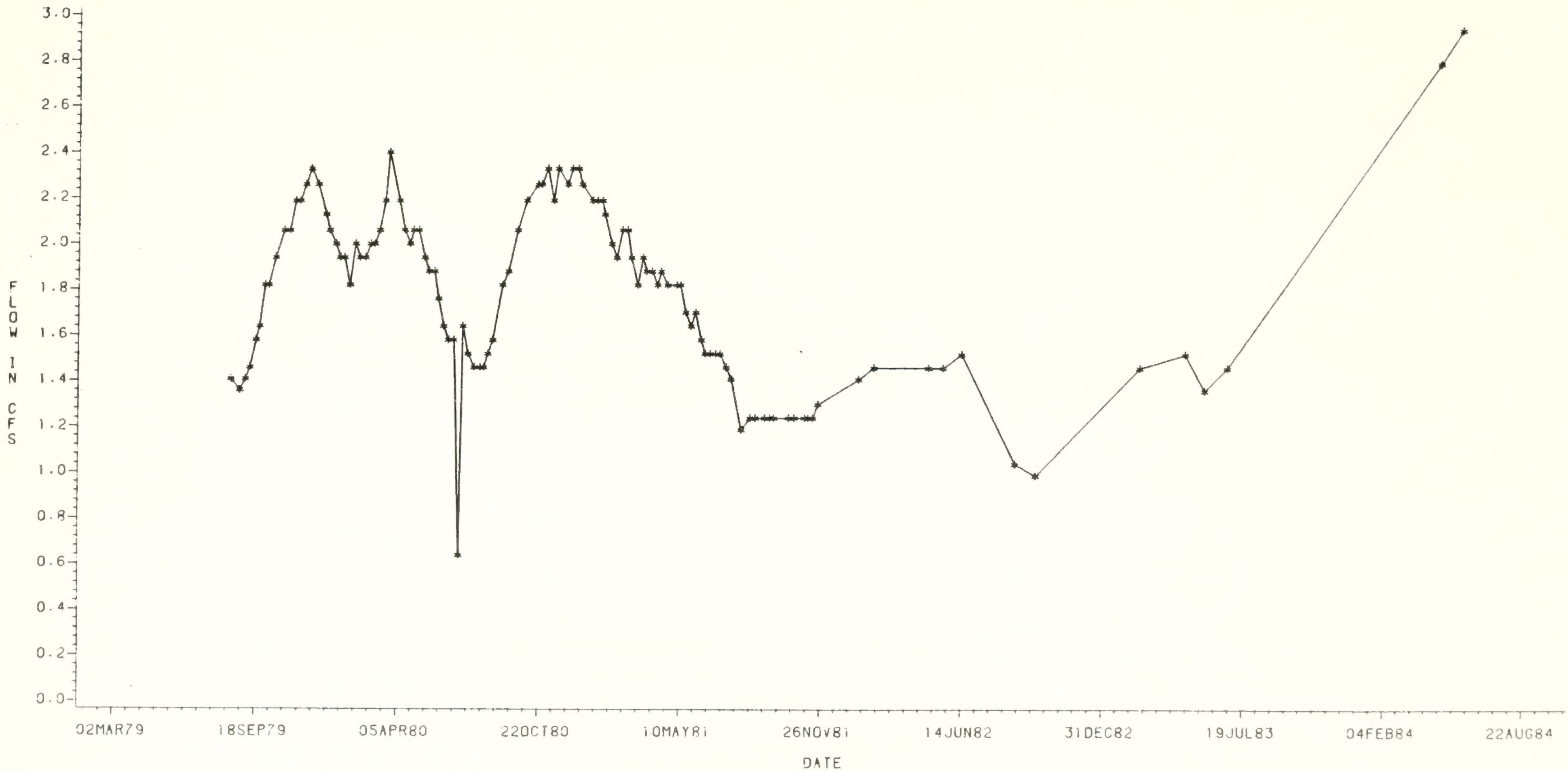
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS30



TIME SERIES PLOT FOR SPRINGS AND SEEPS

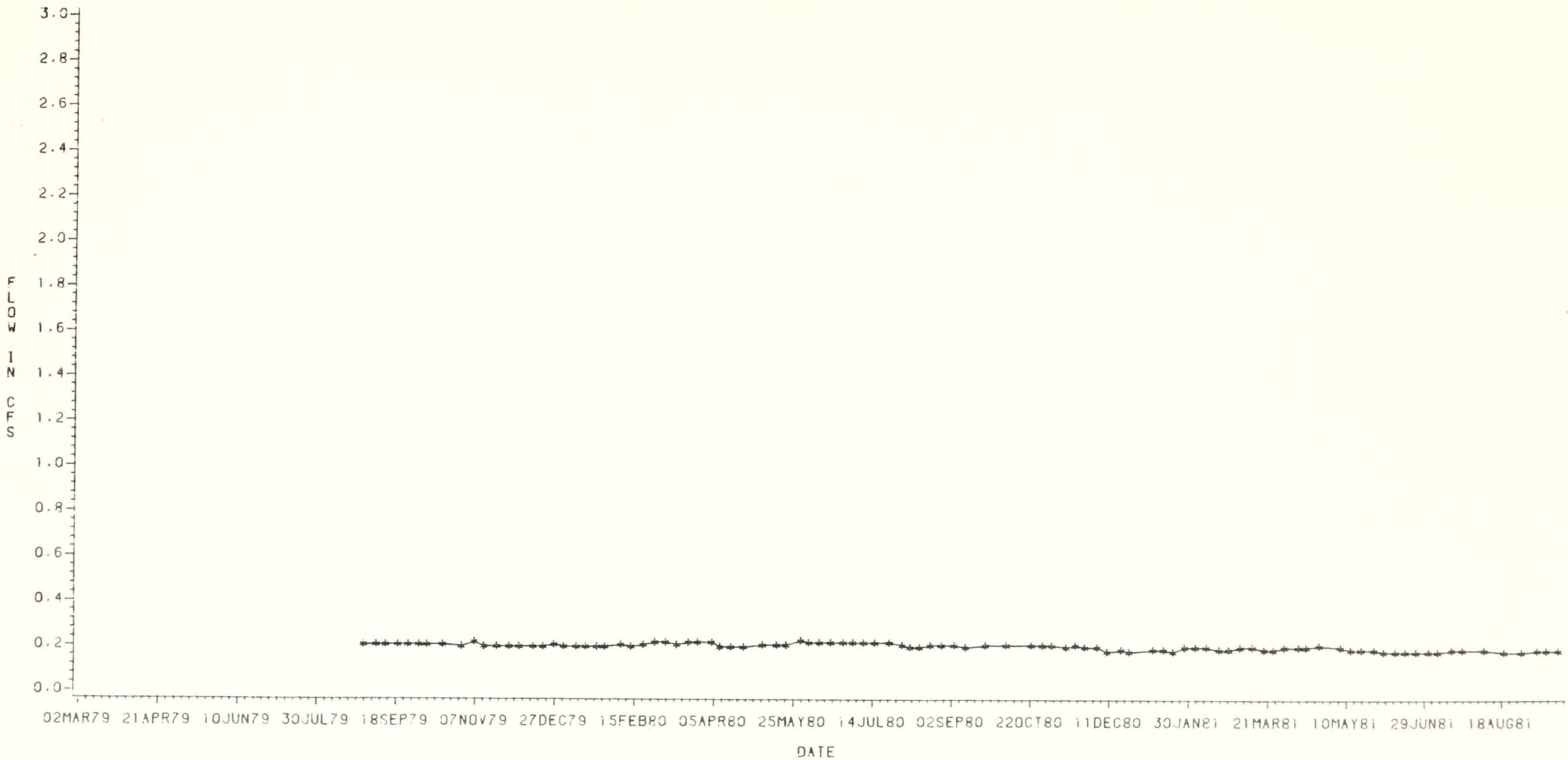
LOC=WS31



I-7

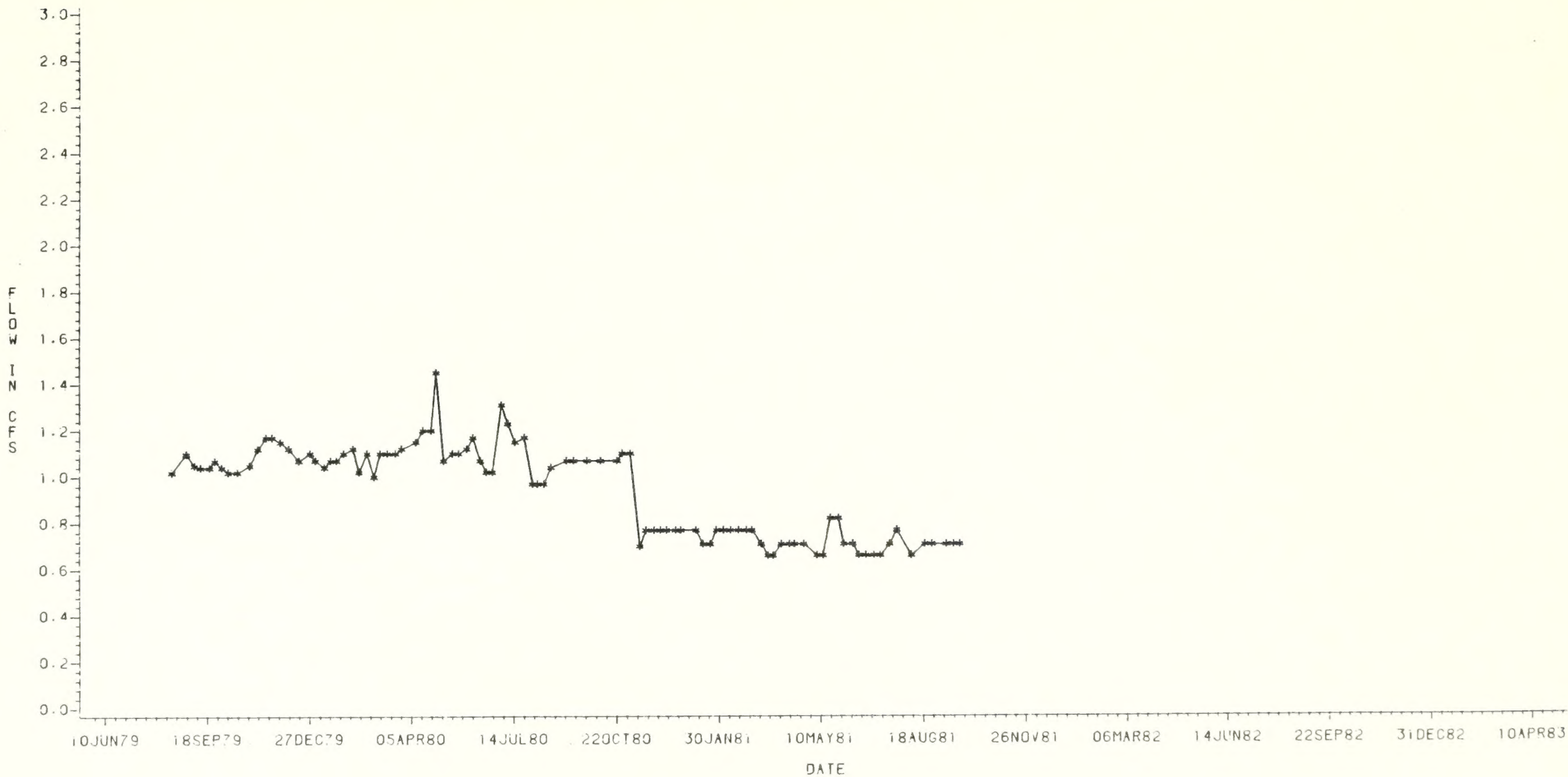
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS32



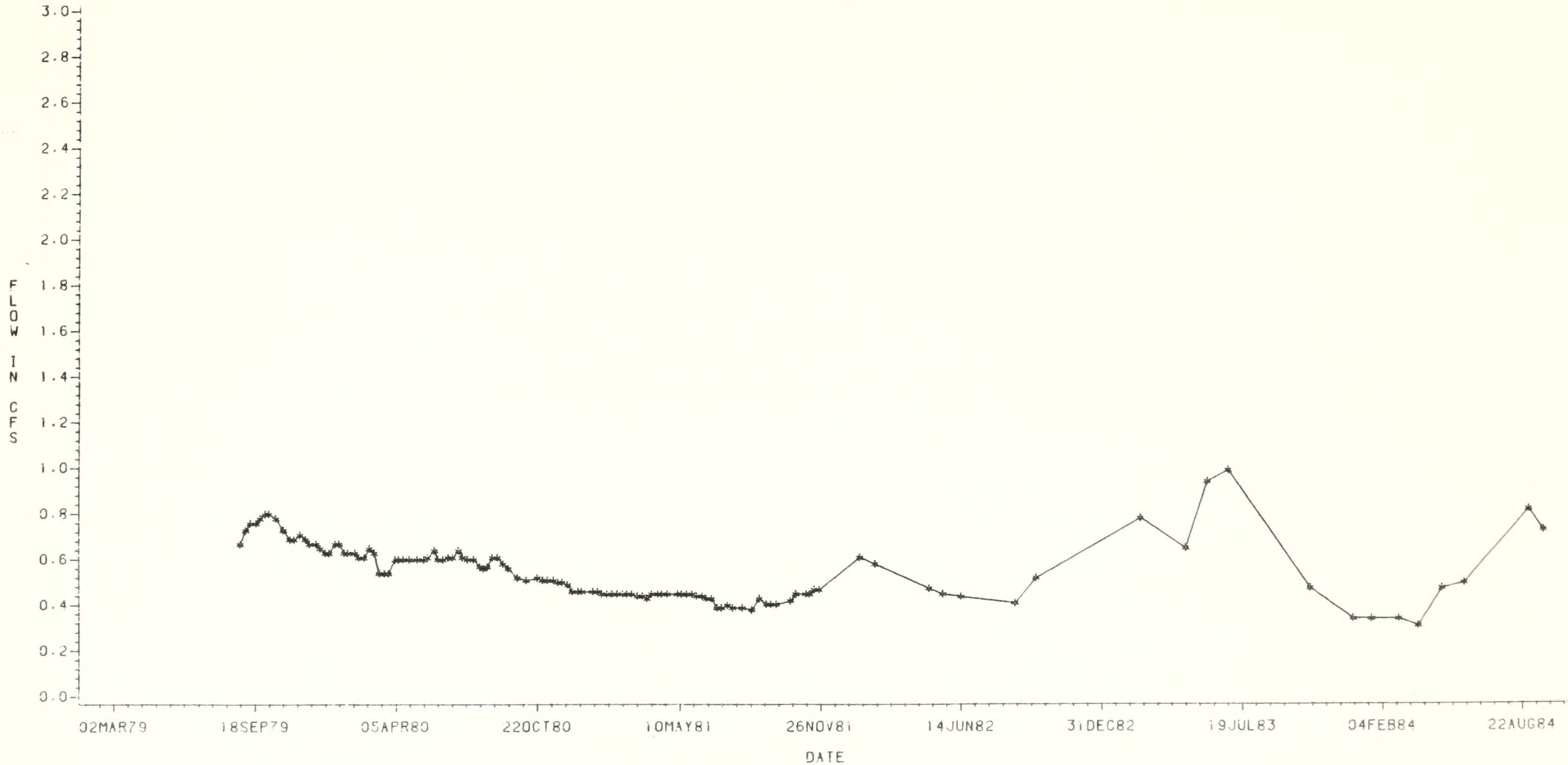
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS33



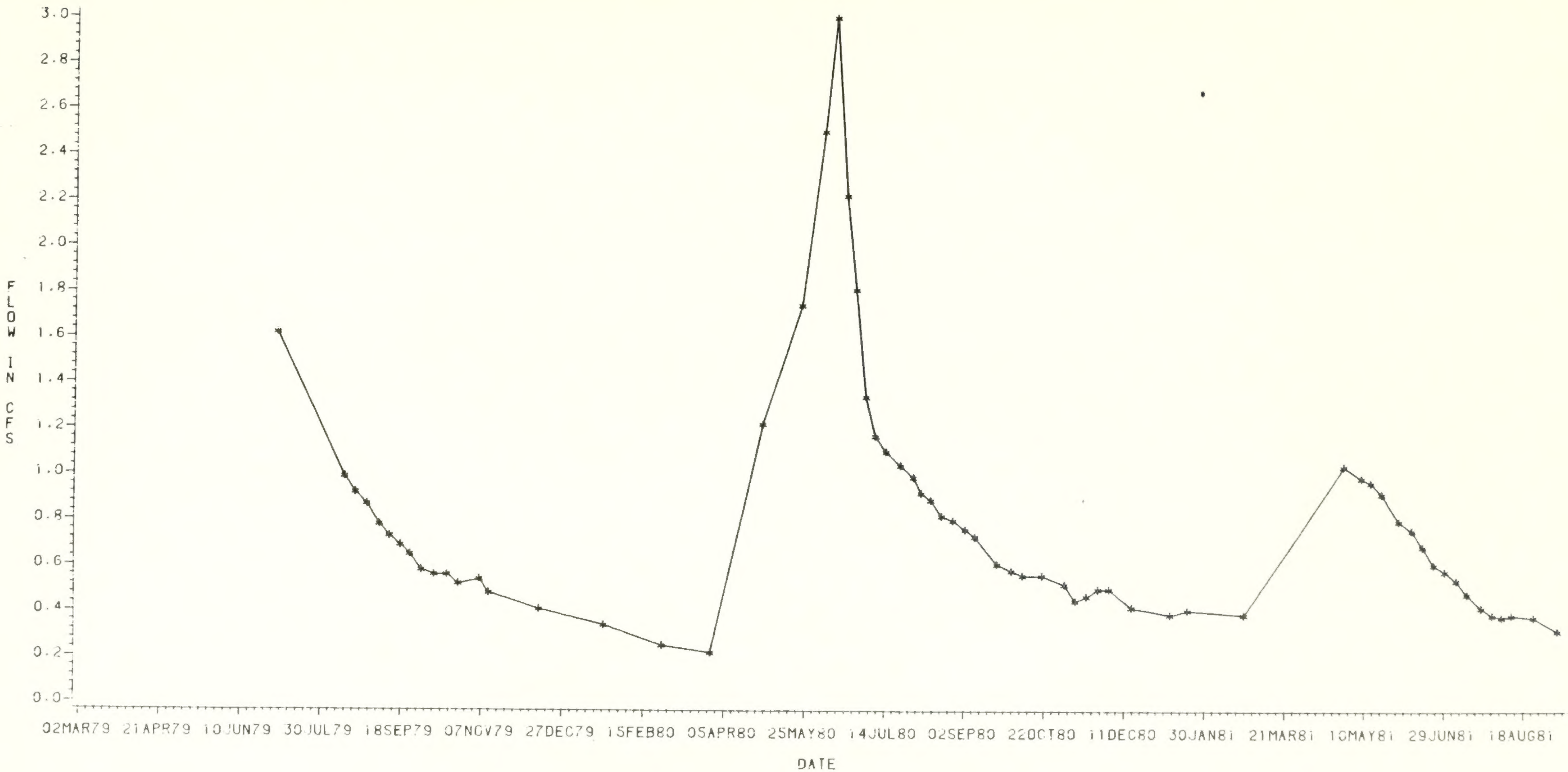
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS34



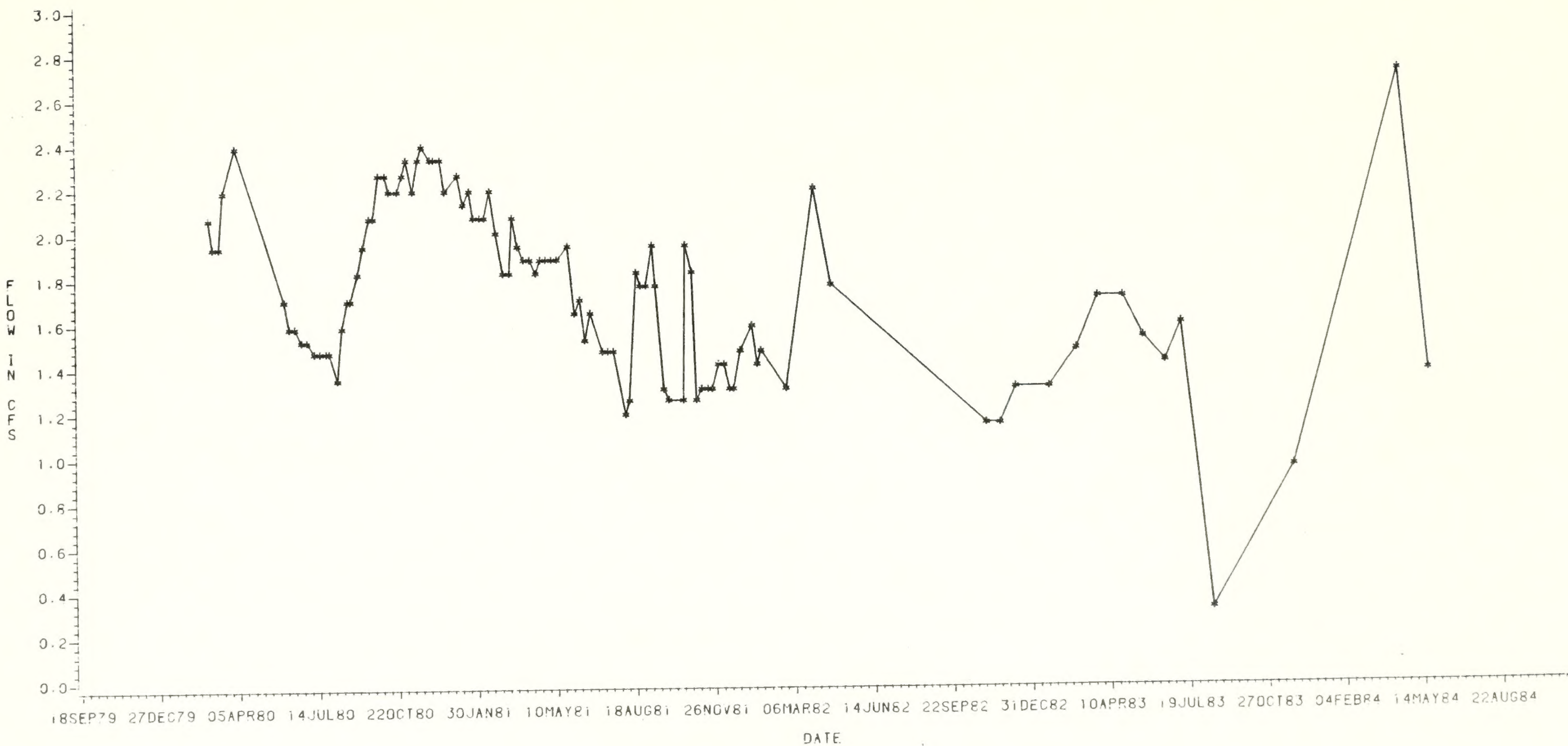
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS35



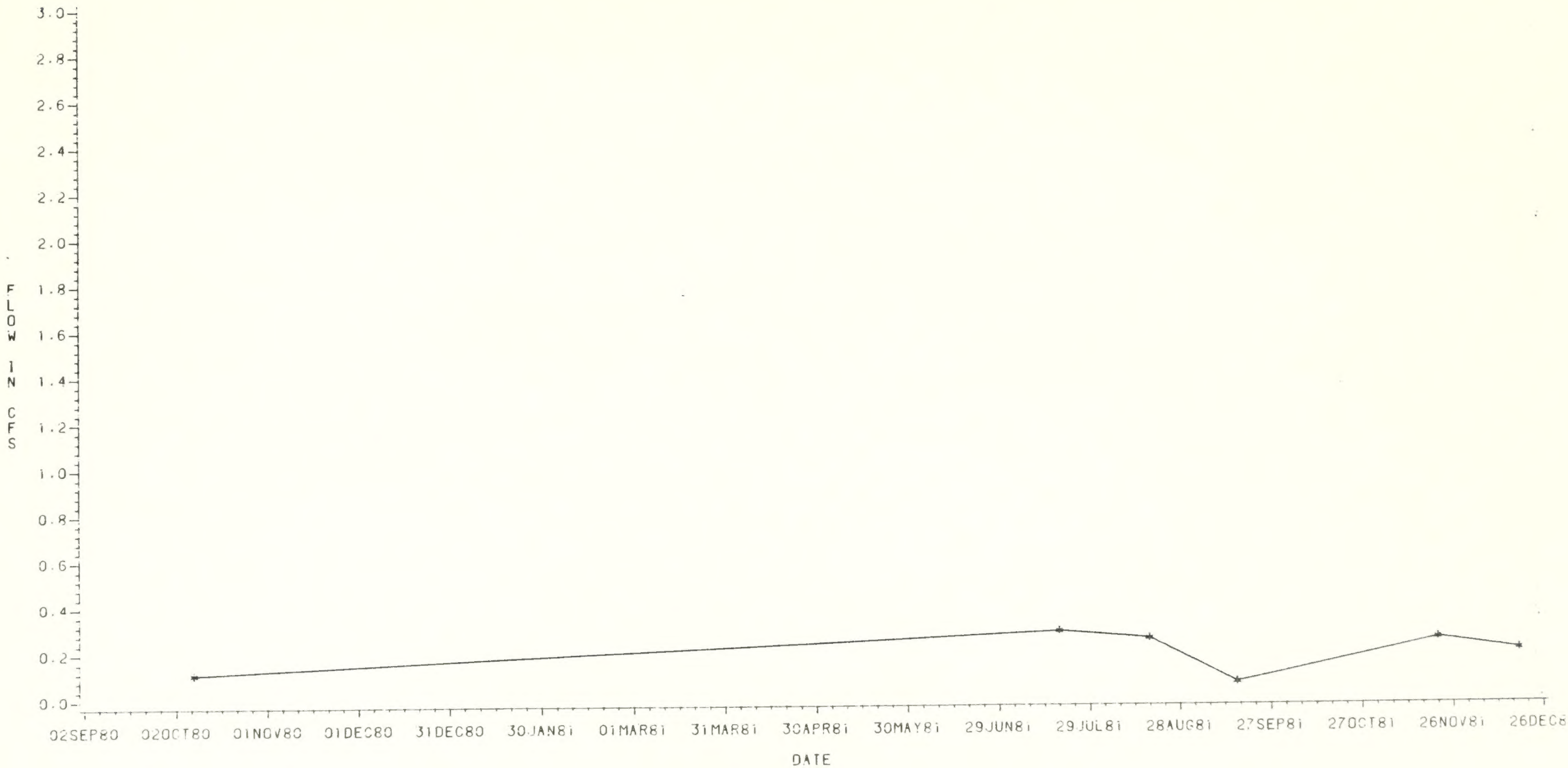
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS36



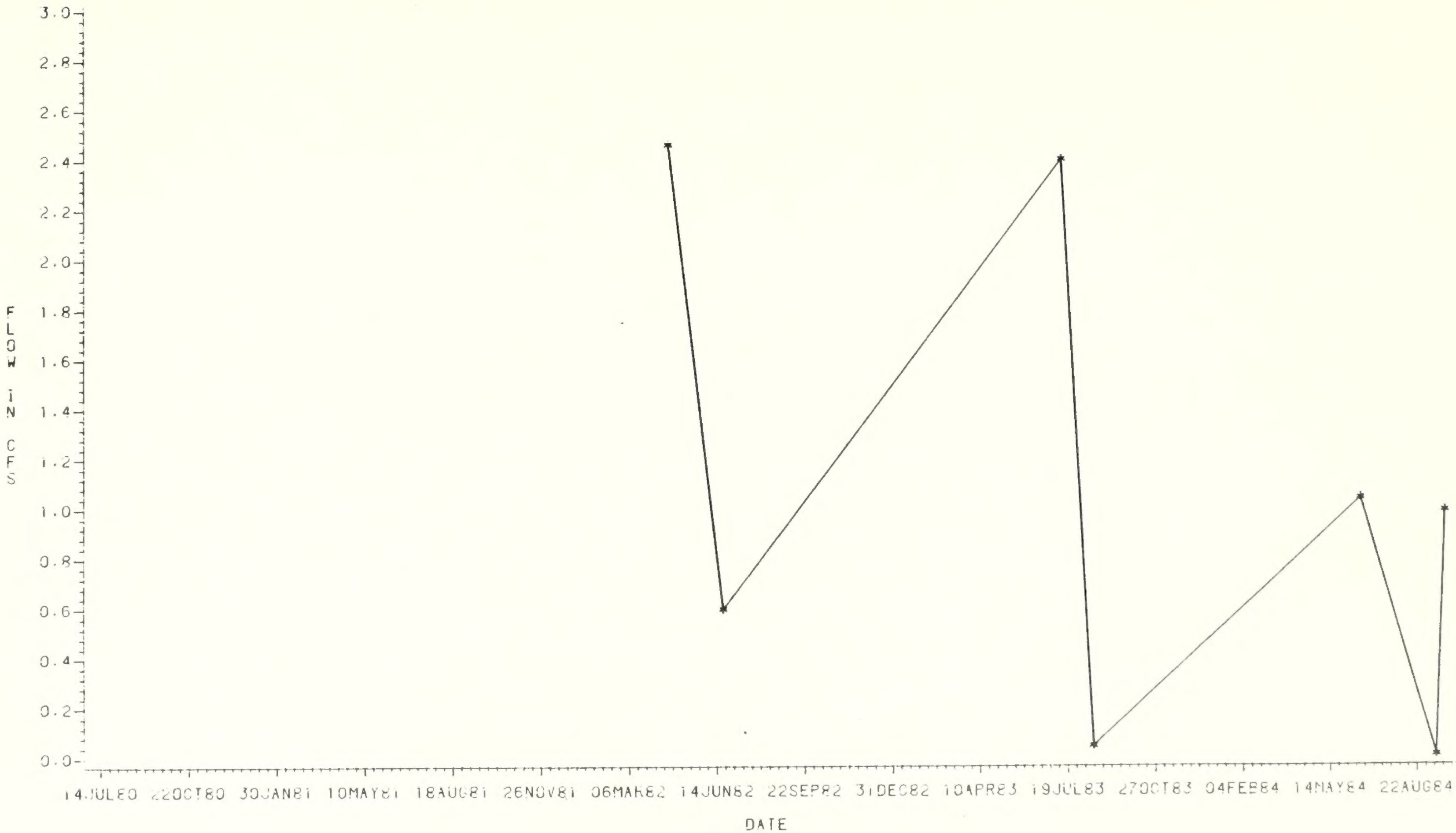
TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS37



TIME SERIES PLOT FOR SPRINGS AND SEEPS

LOC=WS66



1.2.1.3 Alluvial Wells

Alluvial wells are located on and near C-b Tract; these wells are shown in Figure 1.2.1.3-1.

Monitoring of alluvial wells was begun during the baseline period and has continued through C-b Tract's Developmental Monitoring Program, which ended March 1982. Approval of the Interim Monitoring Program (IMP) was granted by the OSPO for the period, April 1983 through 1984.

Data reported in this section are for the Interim Monitoring Program (IMP).

Water levels and field measurements were sampled monthly for all alluvials except dry holes during the DMP. Water levels sampling frequency remains unchanged during the IMP. Field measurements (temperature, pH and conductivity) are to be sampled semiannually unless a maximum or minimum greater than 20% deviation from baseline values occurs for pH or conductivity; then an additional water quality sample must be taken and analyzed. See Table 1.2-1 for station list and associated sampling frequency.

Table 1.2.1.3-1 presents water level and field measurement data for June through November 1984 for all alluvial wells. Wells WA04, WA10, and WA13 are dry; therefore, no data are presented for them.

Time series plots of alluvial well levels are presented in this section; for reference see Table 1.2.1.3-2.

Stevens Recorder instrumentation for monitoring continuous water levels were operating at ten alluvial wells during the Development Monitoring Program (DMP); these recorders were removed upon approval of the OSPO for the Interim Monitoring Program (IMP).

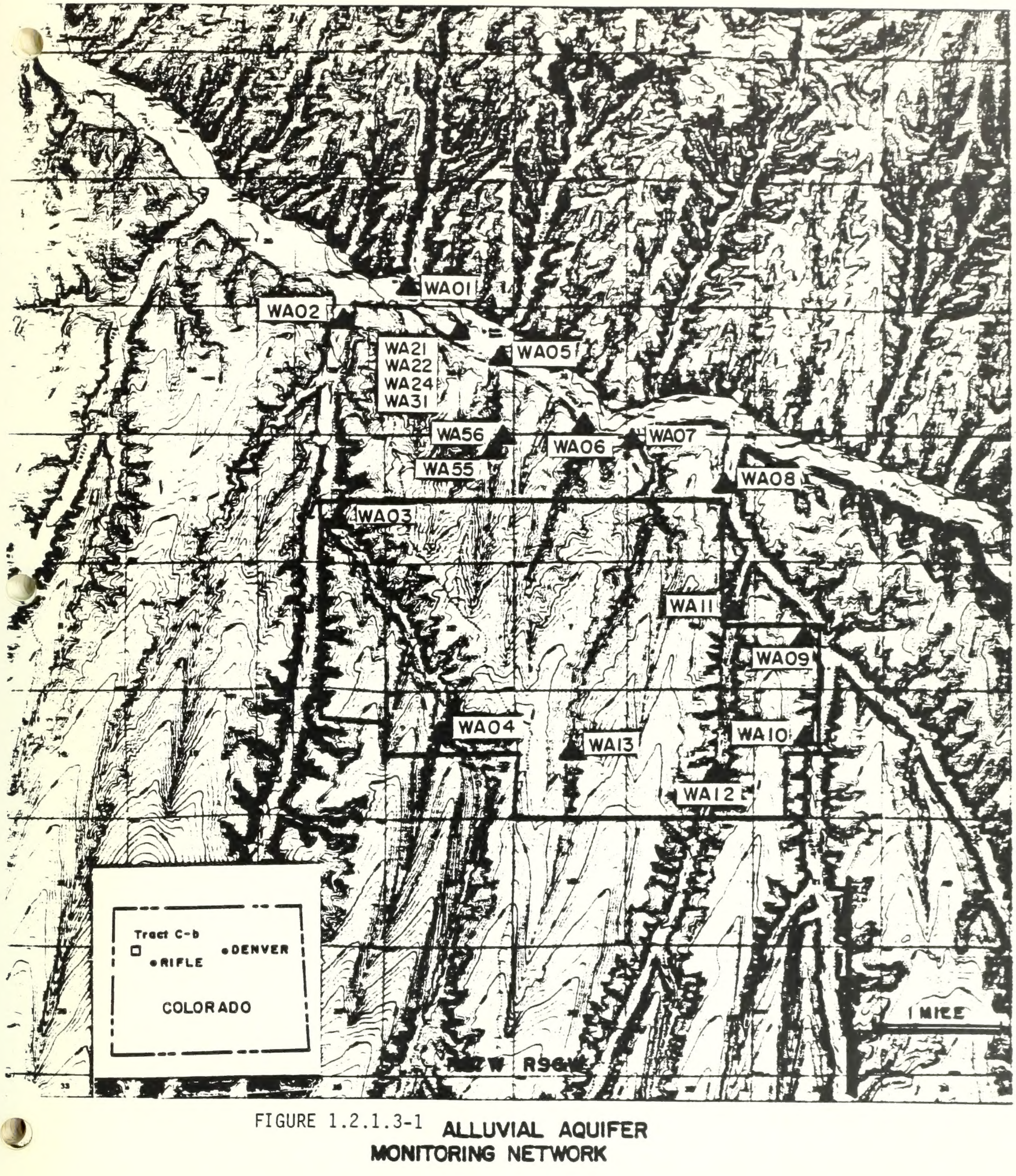


FIGURE 1.2.1.3-1 **ALLUVIAL AQUIFER MONITORING NETWORK**

TABLE 1.2.1.3-1
CB-TRACT
WATER LEVELS AND FIELD MEASUREMENTS
ALLUVIAL WELLS
FOR SAMPLE DATE SHOWN

WELL	YR	MO	DY	ST	DEPTH (FT)	WATER TEMP (C)	PH	FIELD FLUORIDE (MG/L)	SPEC COND (UMHOS)
WA01	84	6	12		6238.9				
		7	24		6243.2				
		8	31		6240.3				
		9	26		6239.1				
		10	29		6239.1				
		11	29		6238.2	10.0	8.6		1400.0
WA02	84	6	12		6273.2				
		7	31		6276.5				
		8	31		6274.5				
		9	27		6273.4				
		10	29		6273.6				
		11	29		6271.9	10.0	8.3		1140.0
WA03	84	6	12		6370.3				
		7	31		6373.6				
		8	31		6369.0				
		9	27		6373.3				
		10	29		6374.0				
		11	29		6372.6	10.0	8.0		1230.0
WA05	84	6	14		6328.3				
		7	25		6328.1				
		8	29		6326.9				
		9	26		6327.9				
		10	29		6327.4				
		11	29		6327.5	11.0	8.0		1210.0
WA06	84	6	18		6328.9				
		7	23		6335.9				
		8	31		6327.9				
		9	26		6326.2				
		10	29		6328.4				
		11	30		6325.0	8.0	7.9		1200.0
WA07	84	6	18		6356.9				
		7	23		6360.8				
		8	29		6354.2				

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSIBLE

TABLE 1.2.1.3-1 (Cont'd)
CB-TRACT
WATER LEVELS AND FIELD MEASUREMENTS
ALLUVIAL WELLS
FOR SAMPLE DATE SHOWN

WELL	YR	MO	DY	ST	DEPTH (FT)	WATER TEMP (C)	PH	FIELD FLUORIDE (MG/L)	SPEC COND (UMHOS)
WA07	84	9	26		6352.9				.0
		10	29		6352.2				.0
		11	30		6352.1	8.0	8.1		1030.0
WA08	84	6	14		6387.7				
		7	23		6389.0				
		8	29		6389.8				
		9	27		6386.3				
		10	30		6387.9				
		11	30		6387.0	9.0	8.0		1120.0
WA09	84	6	14		6495.3				
		7	23		6496.5				
		8	29		6497.7				
		9	27		6497.1				
		10	30		6495.2				
		11	30		6496.3	8.0	8.1		1150.0
WA11	84	6	14		6451.5				
		7	19		6451.7				
		8	29		6451.4				
		9	27		6450.9				
		10	30		6451.1				
		11	30		6449.0	8.0	8.2		1200.0
WA12	84	6	14		6643.8				
		7	19		6642.2				
		8	29		6641.6				
		9	27		6640.9				
		10	30		6641.9				
		11	30		6644.0	8.0	8.0		1540.0
WA21	84	6	21	FLWING	6292.0	9.0	7.5		1450.0
WA22	84	6	21		6286.4	9.0	7.5		1350.0
WA24	84	6	21		6284.0	9.0	7.4		1350.0

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSIBLE

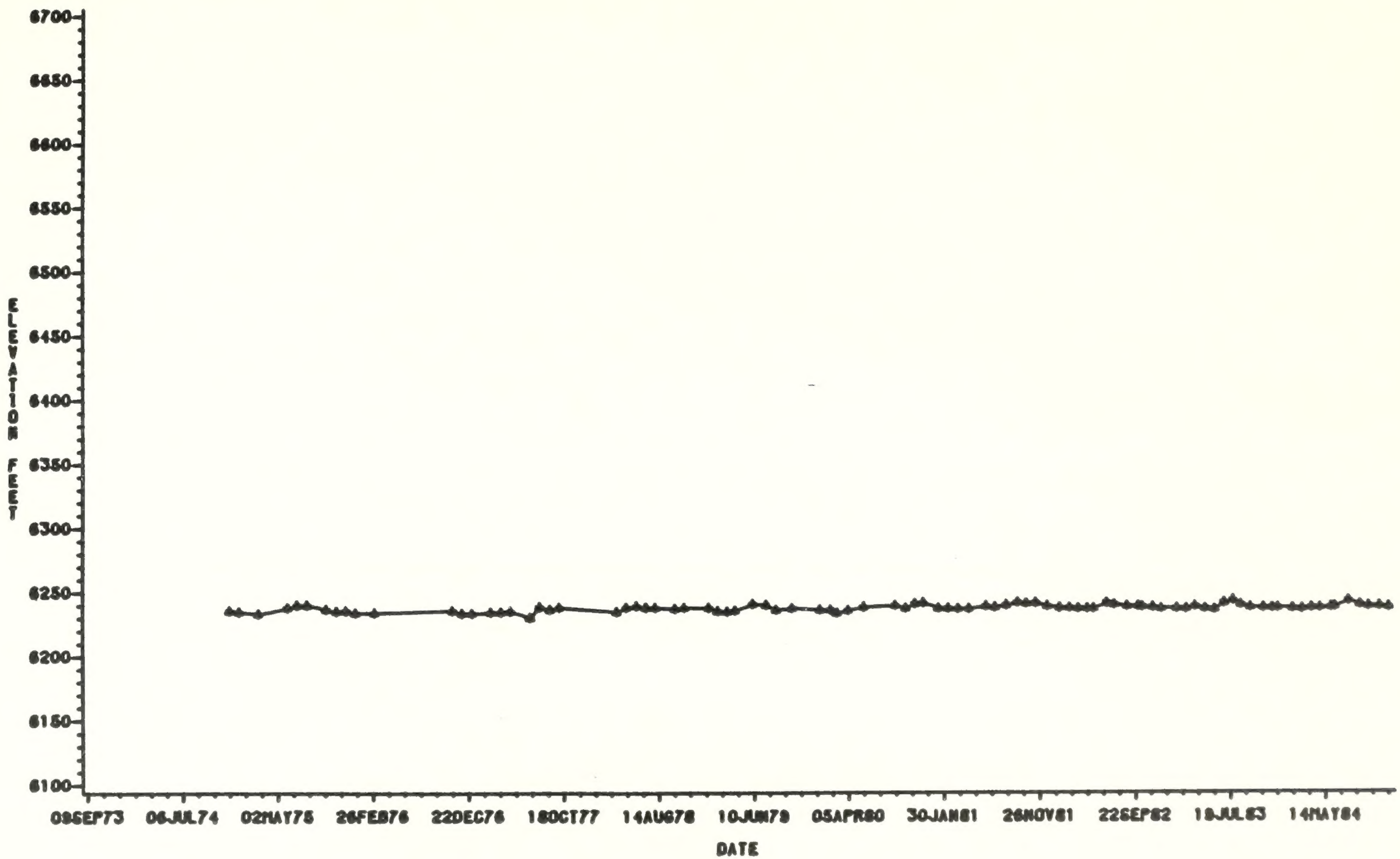
TABLE 1.2.1.3-1 (Cont'd)
CB-TRACT
WATER LEVELS AND FIELD MEASUREMENTS
ALLUVIAL WELLS
FOR SAMPLE DATE SHOWN

WELL	YR	MO	DY	ST	DEPTH (FT)	WATER TEMP (C)	PH	FIELD FLUORIDE (MG/L)	SPEC COND (UMHOS)
WA55	84	6	18		6443.9				
		7	30		6440.3				
		9	14		6440.1				
		10	22		6440.9				
WA56	84	6	18		6442.7				
		7	30		6439.1				
		9	14		6439.0				
		10	22		6437.6				

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSIBLE

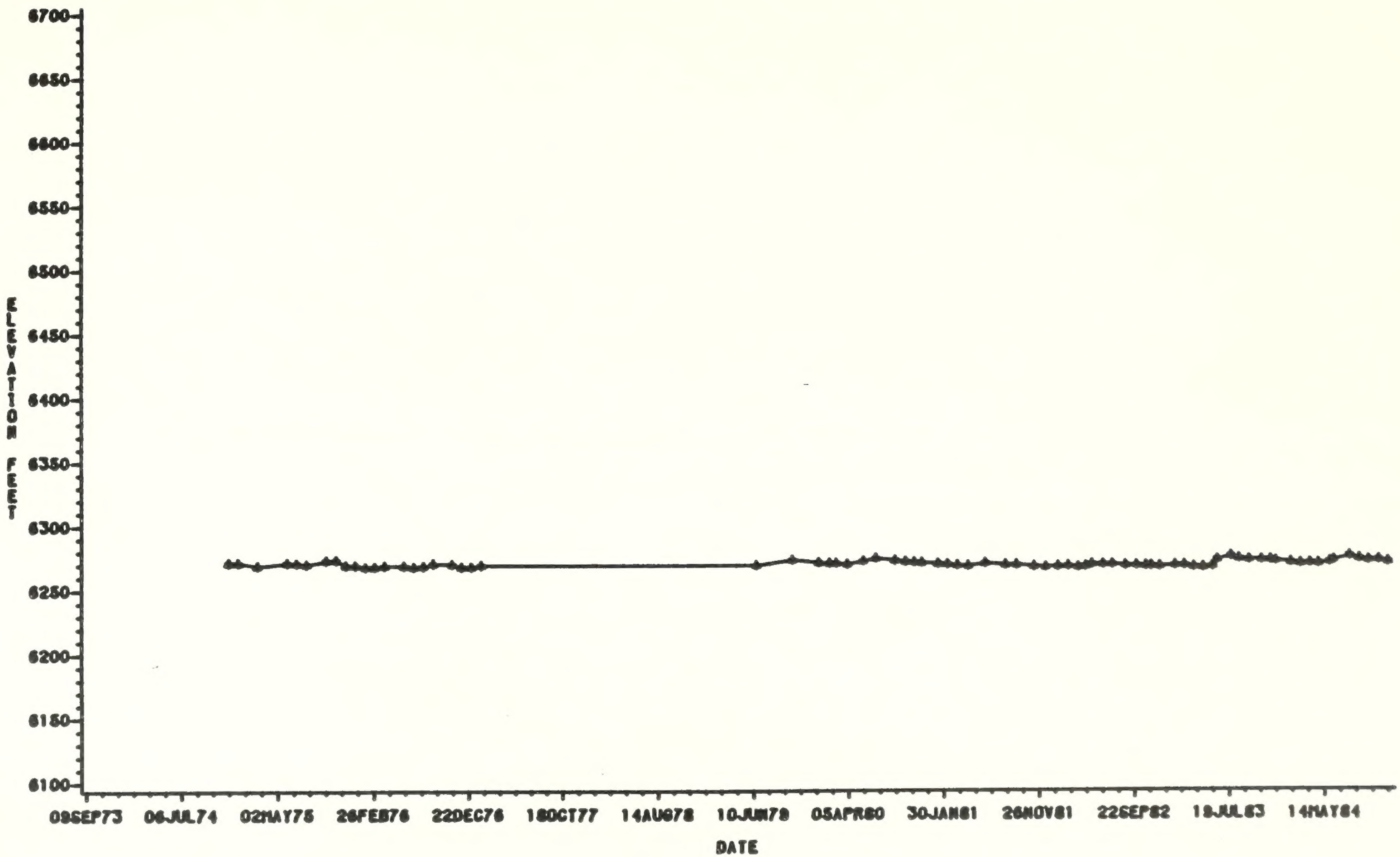
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA01



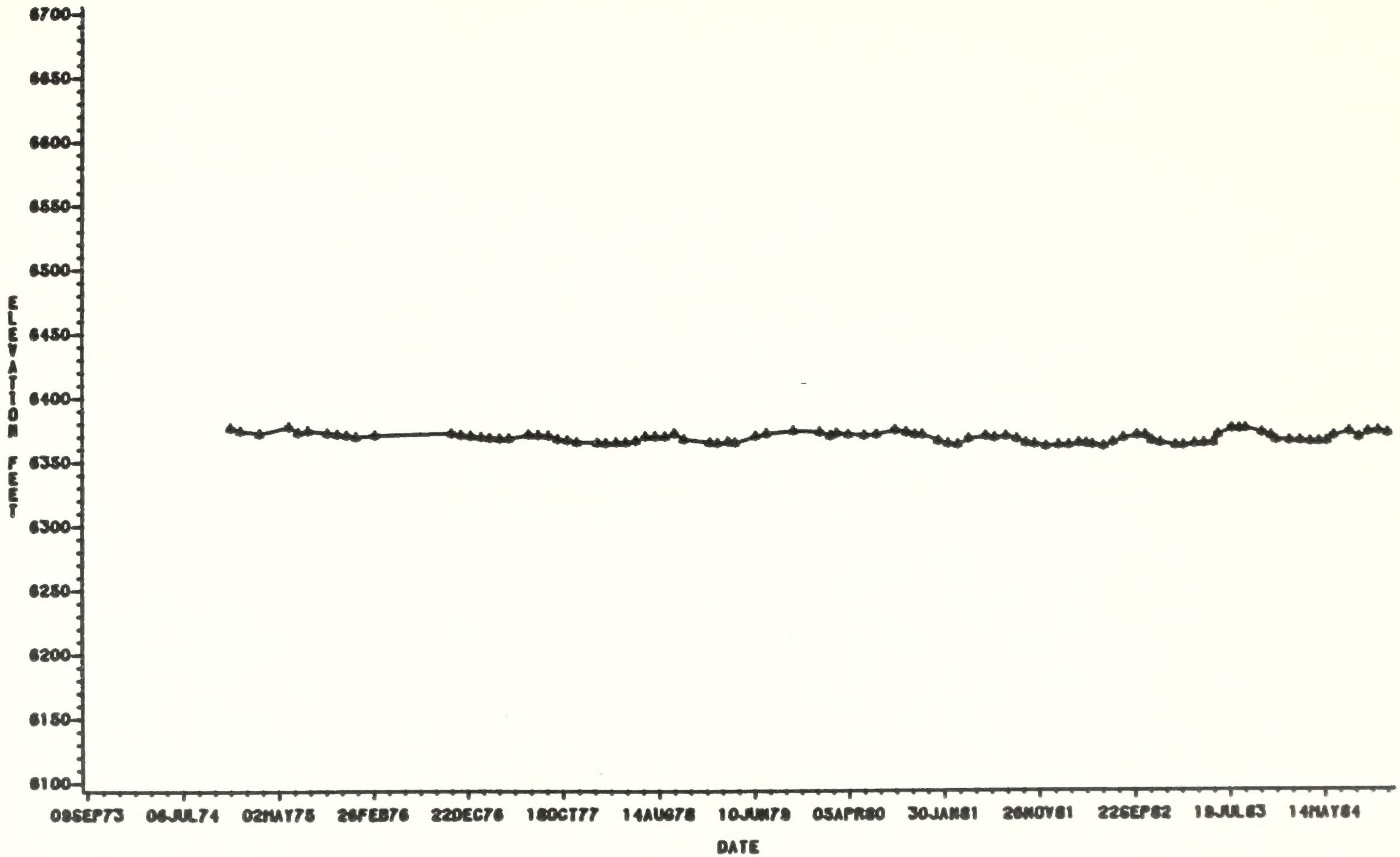
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA02



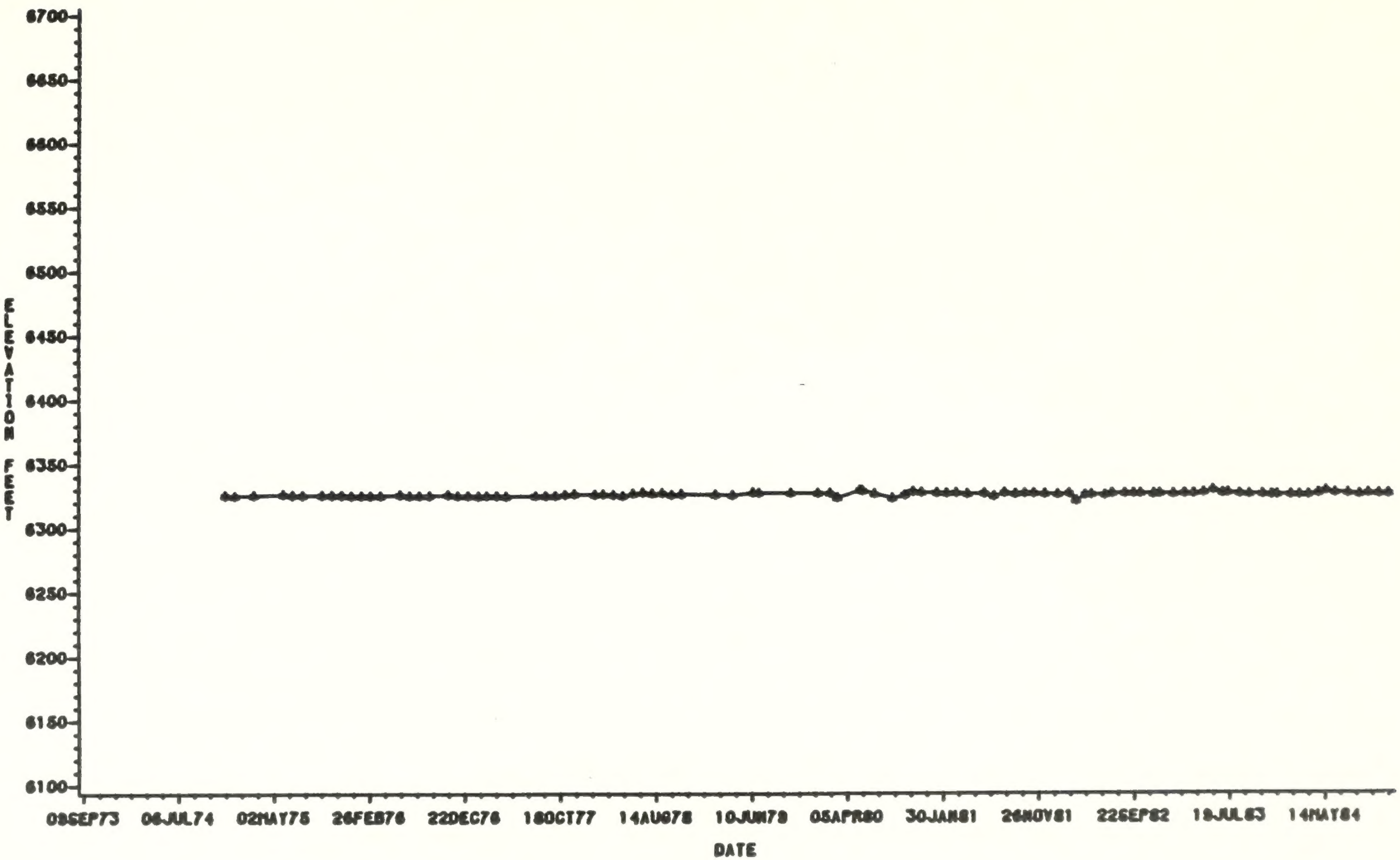
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA03



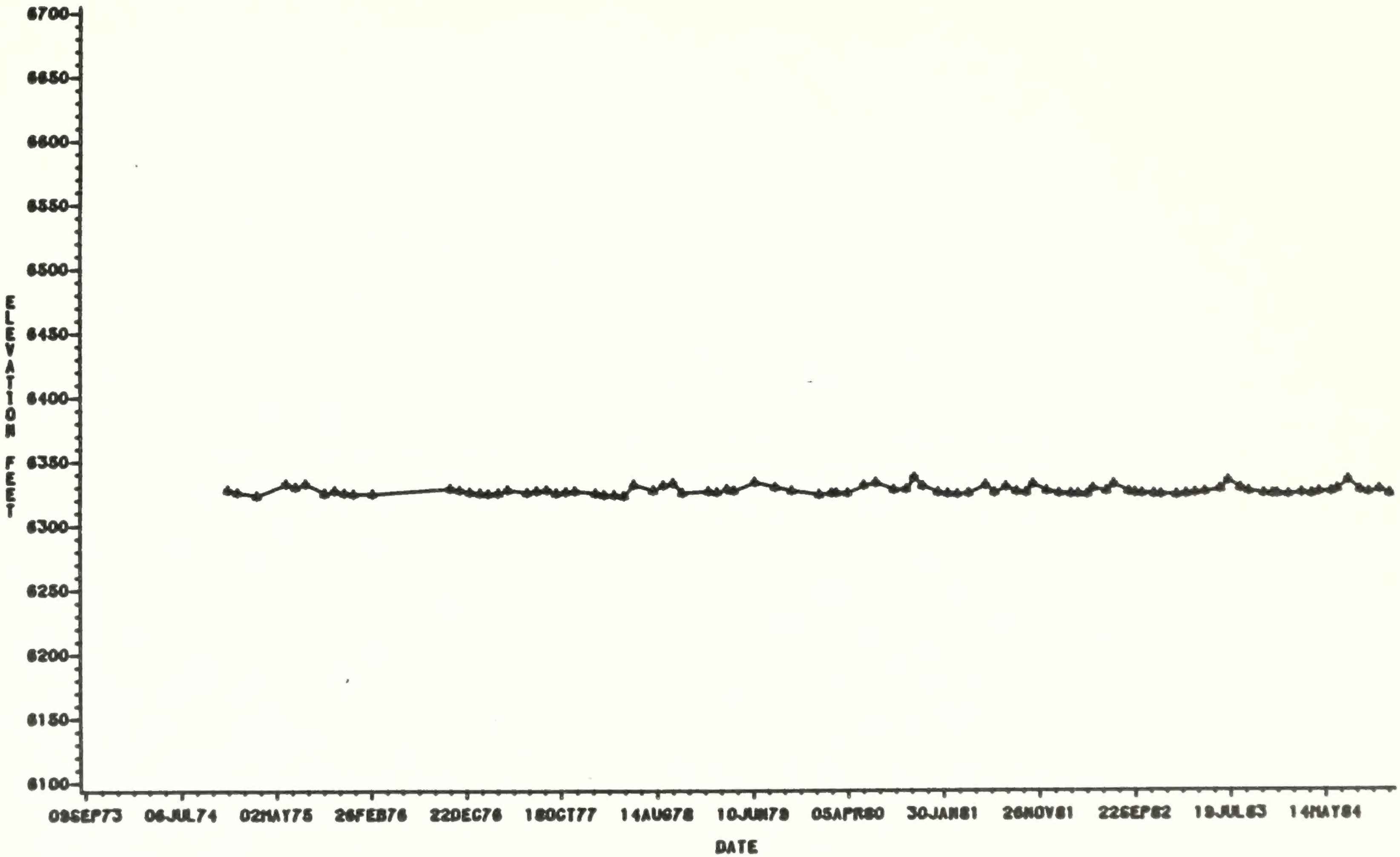
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA05



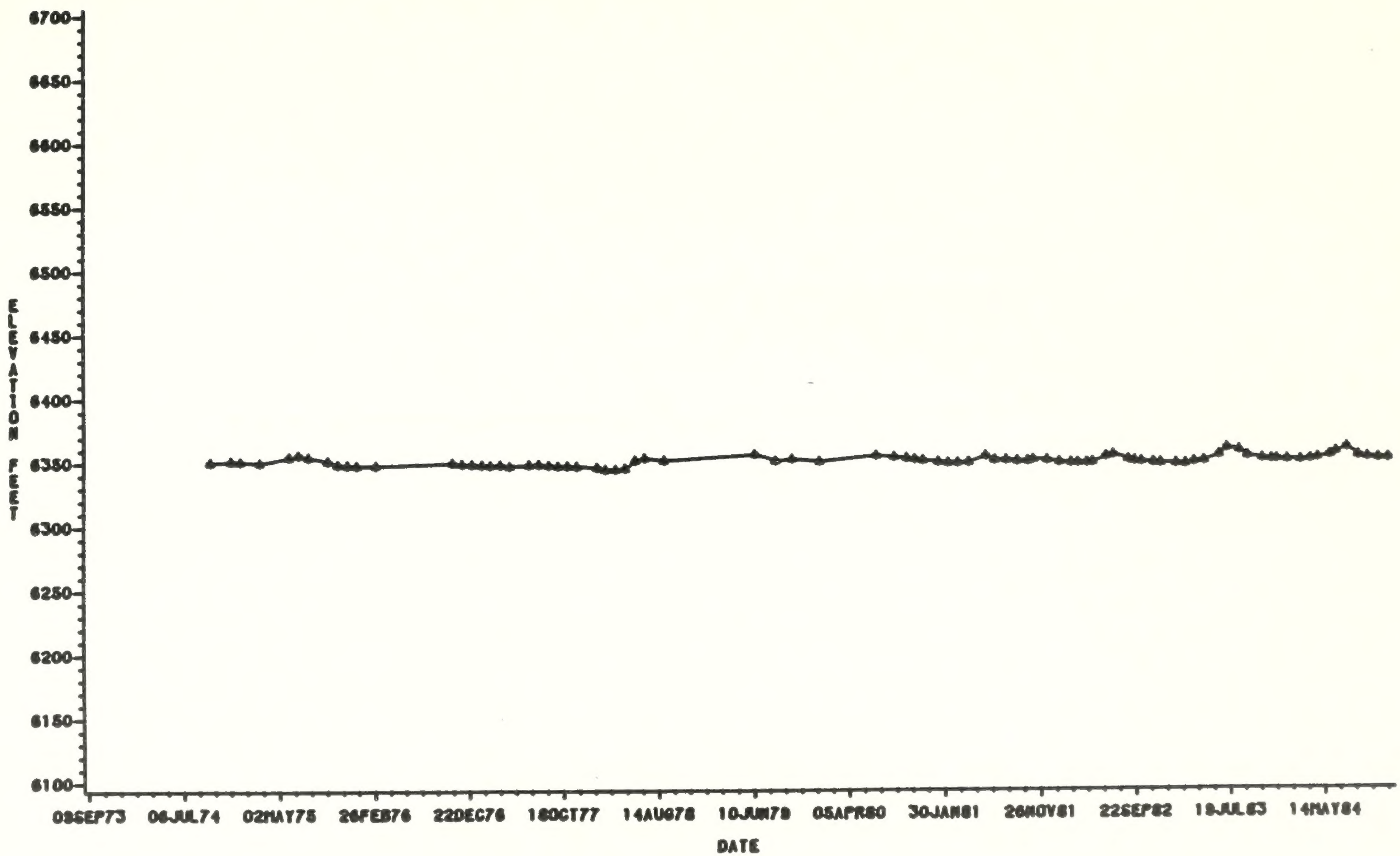
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA06



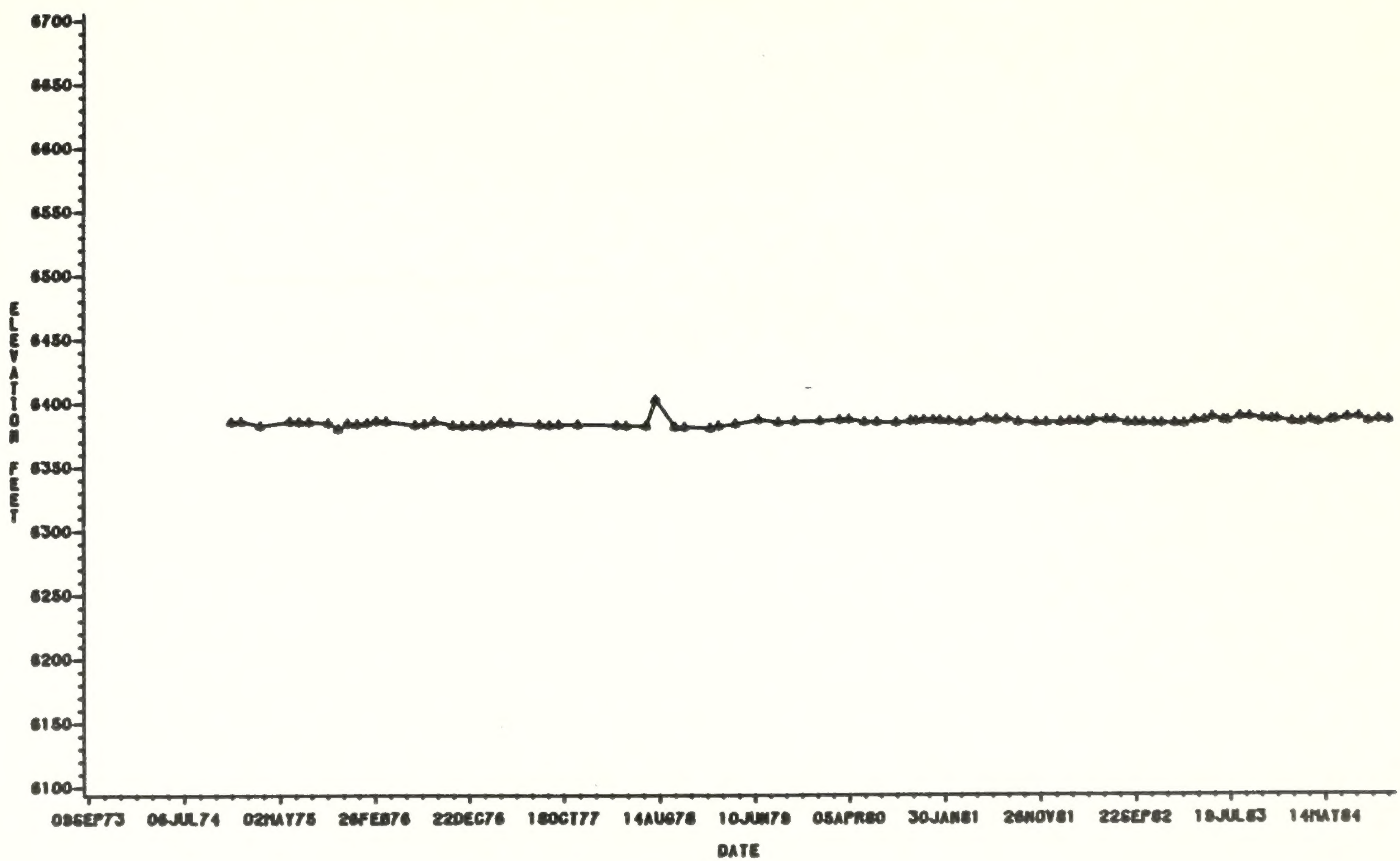
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA07



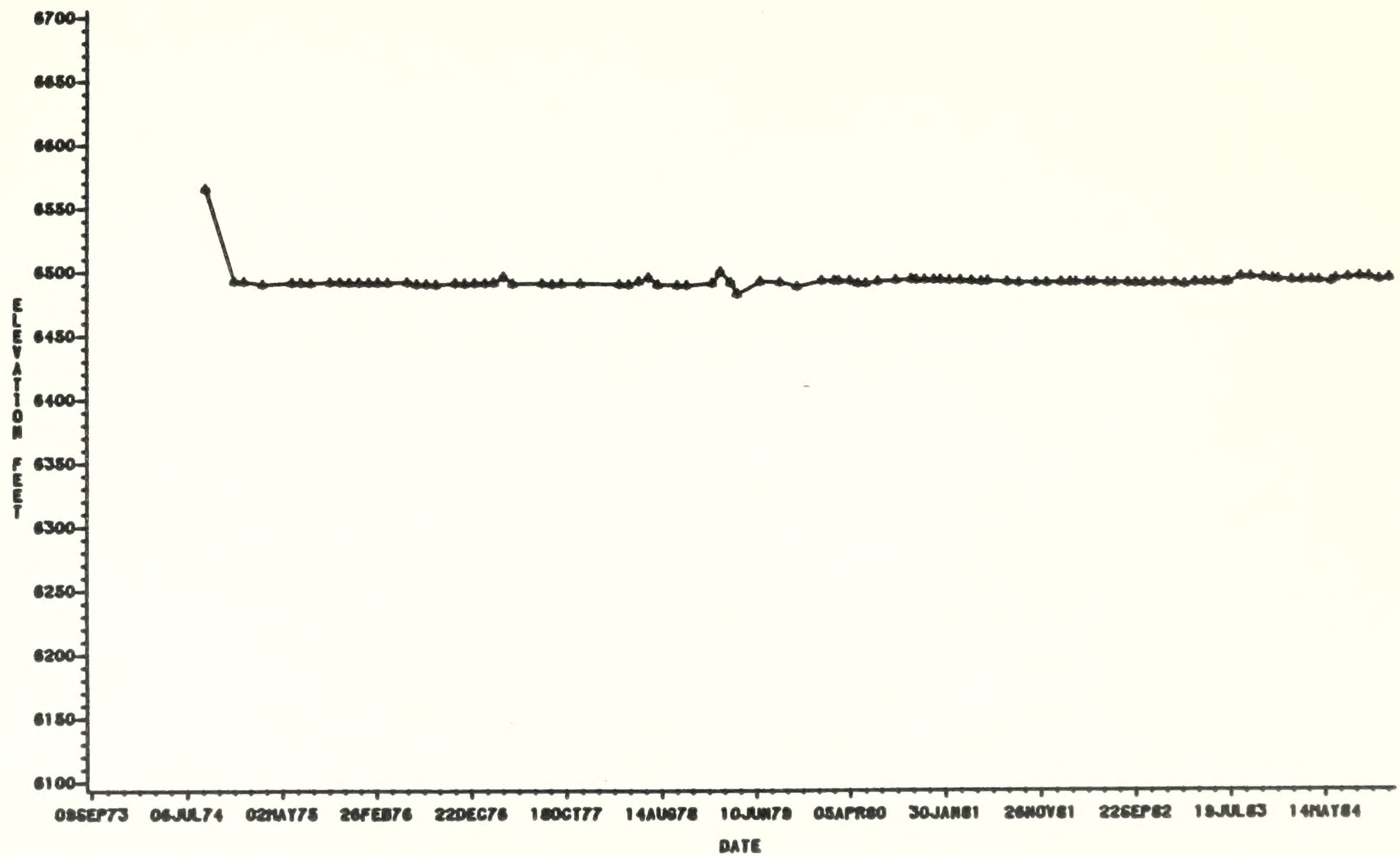
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA08



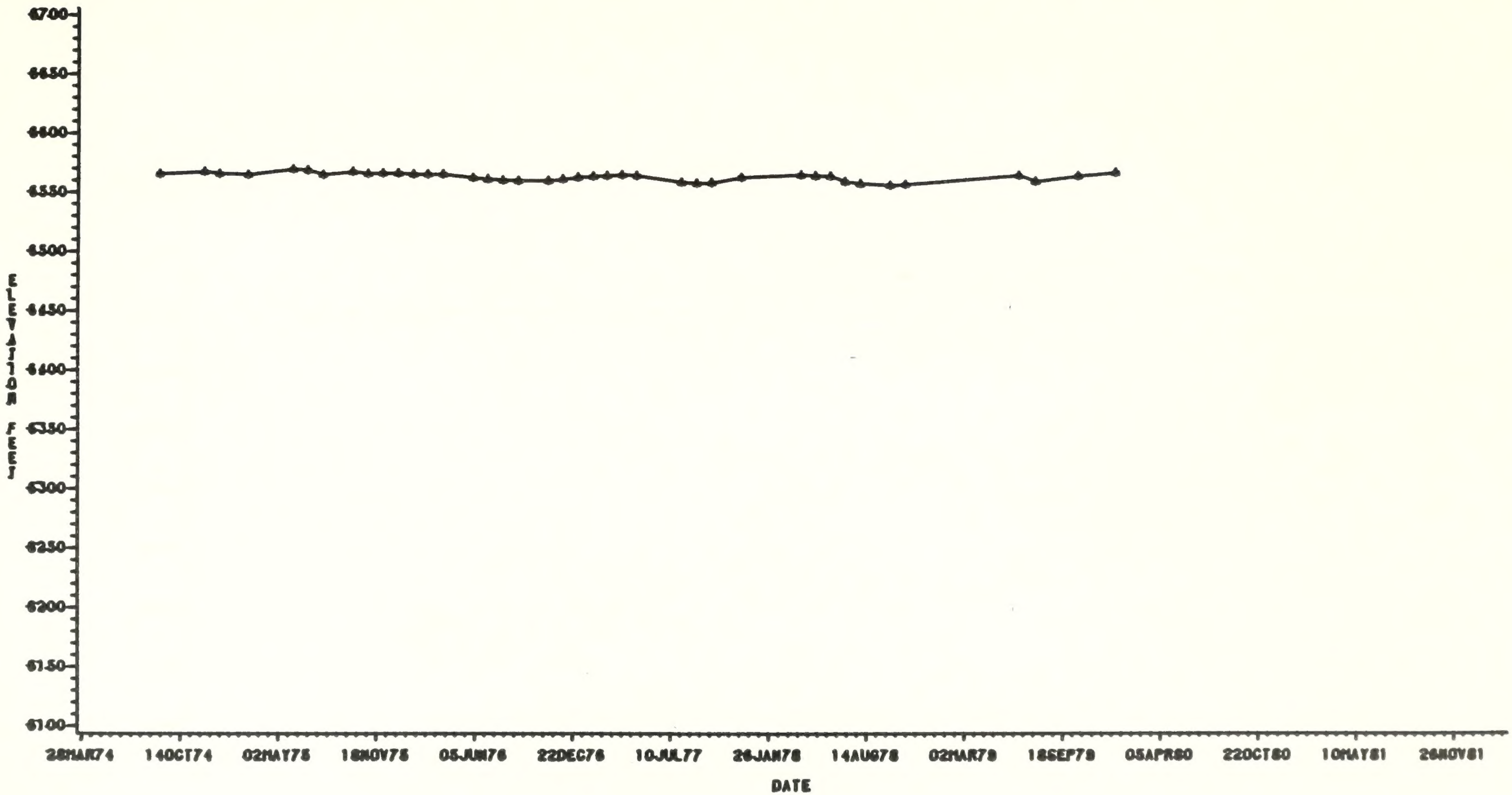
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA09



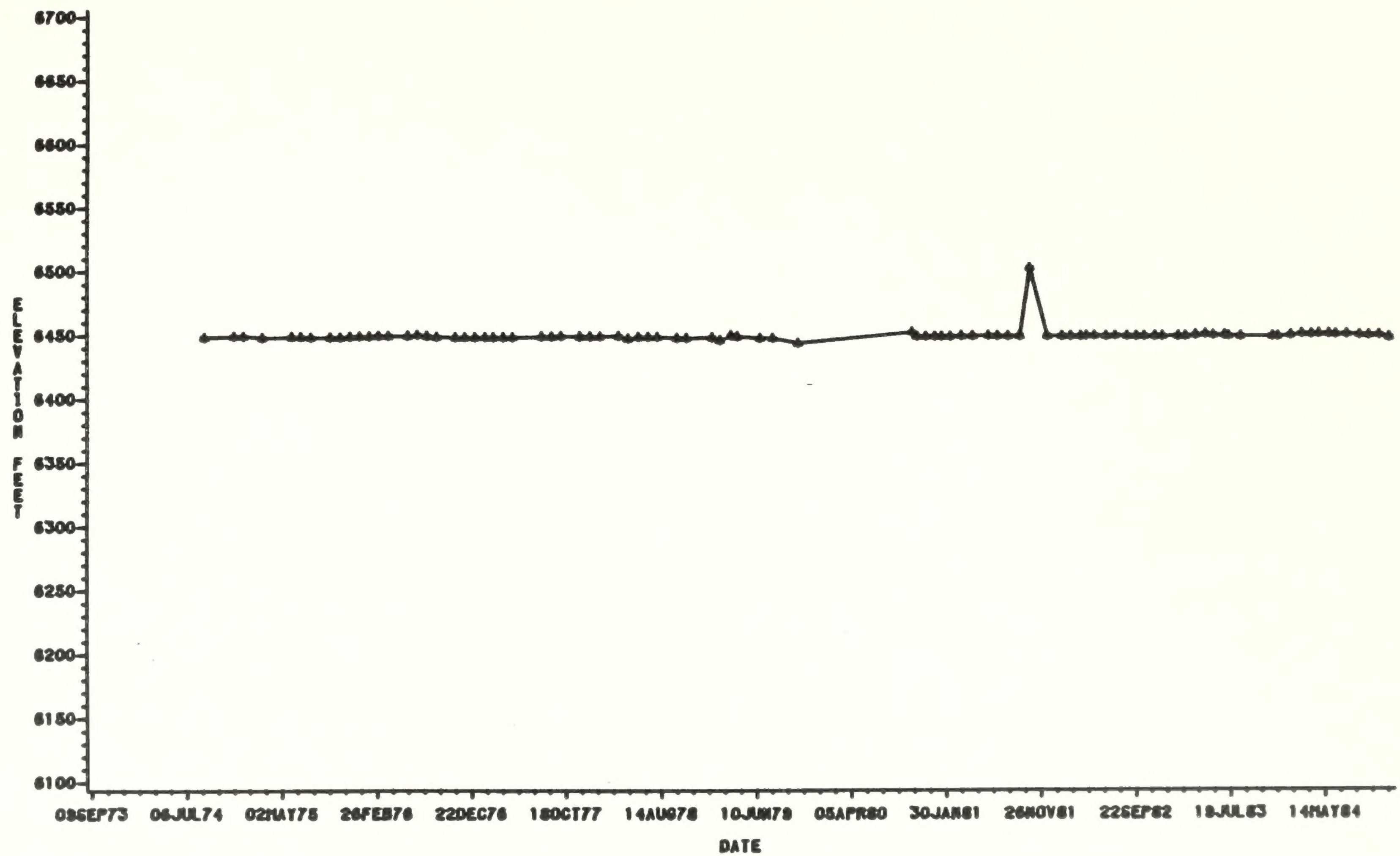
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA10



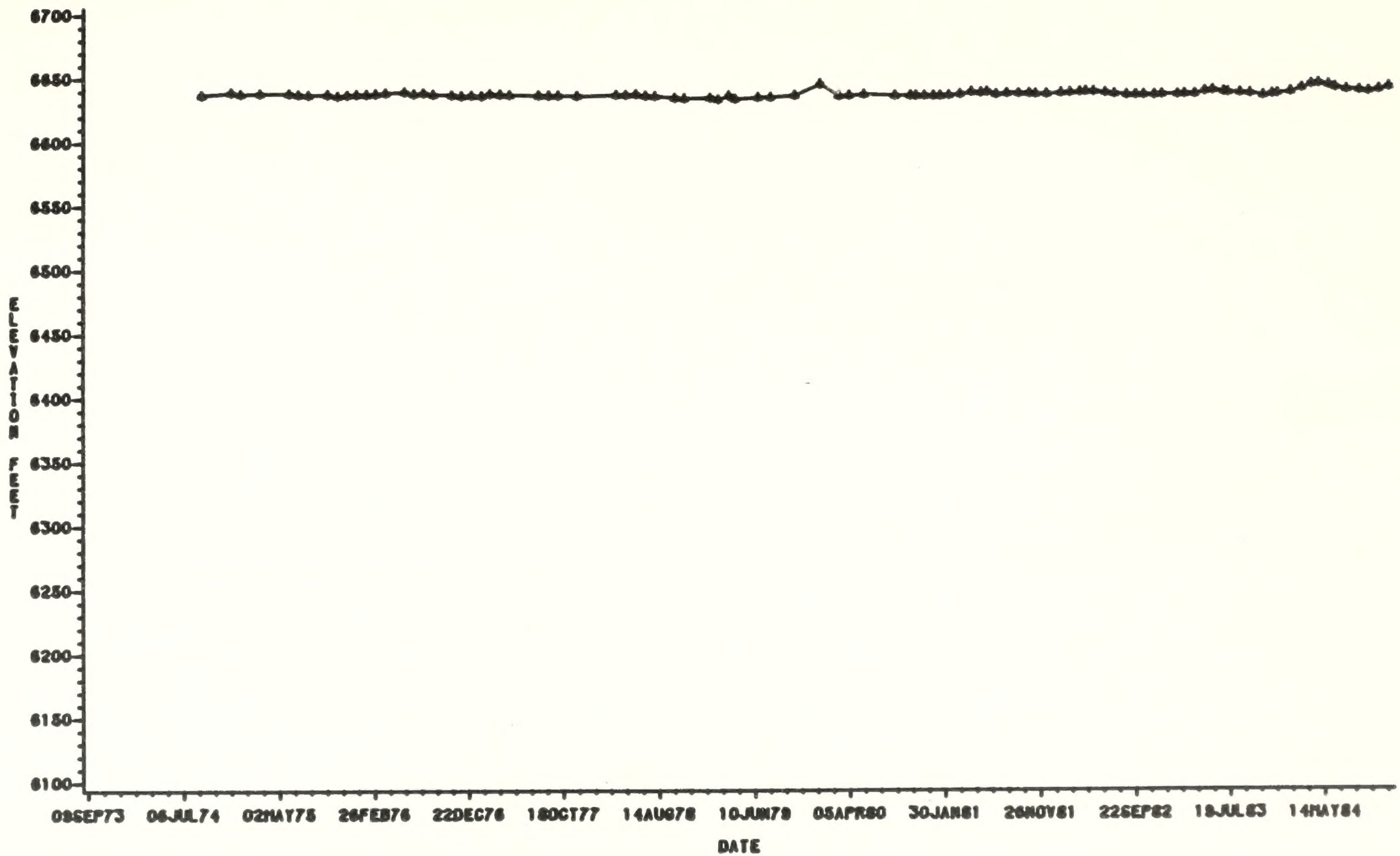
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA11



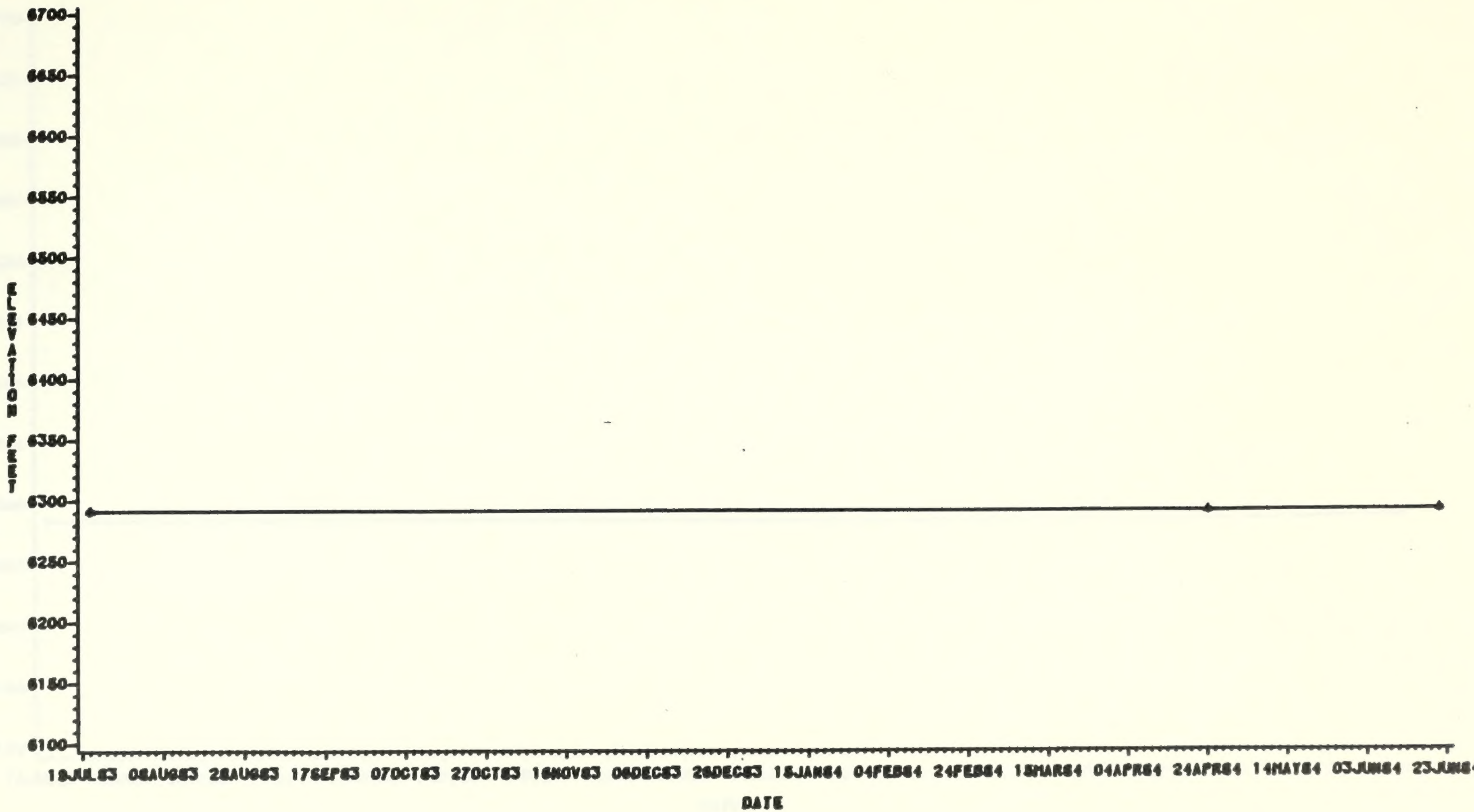
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA12



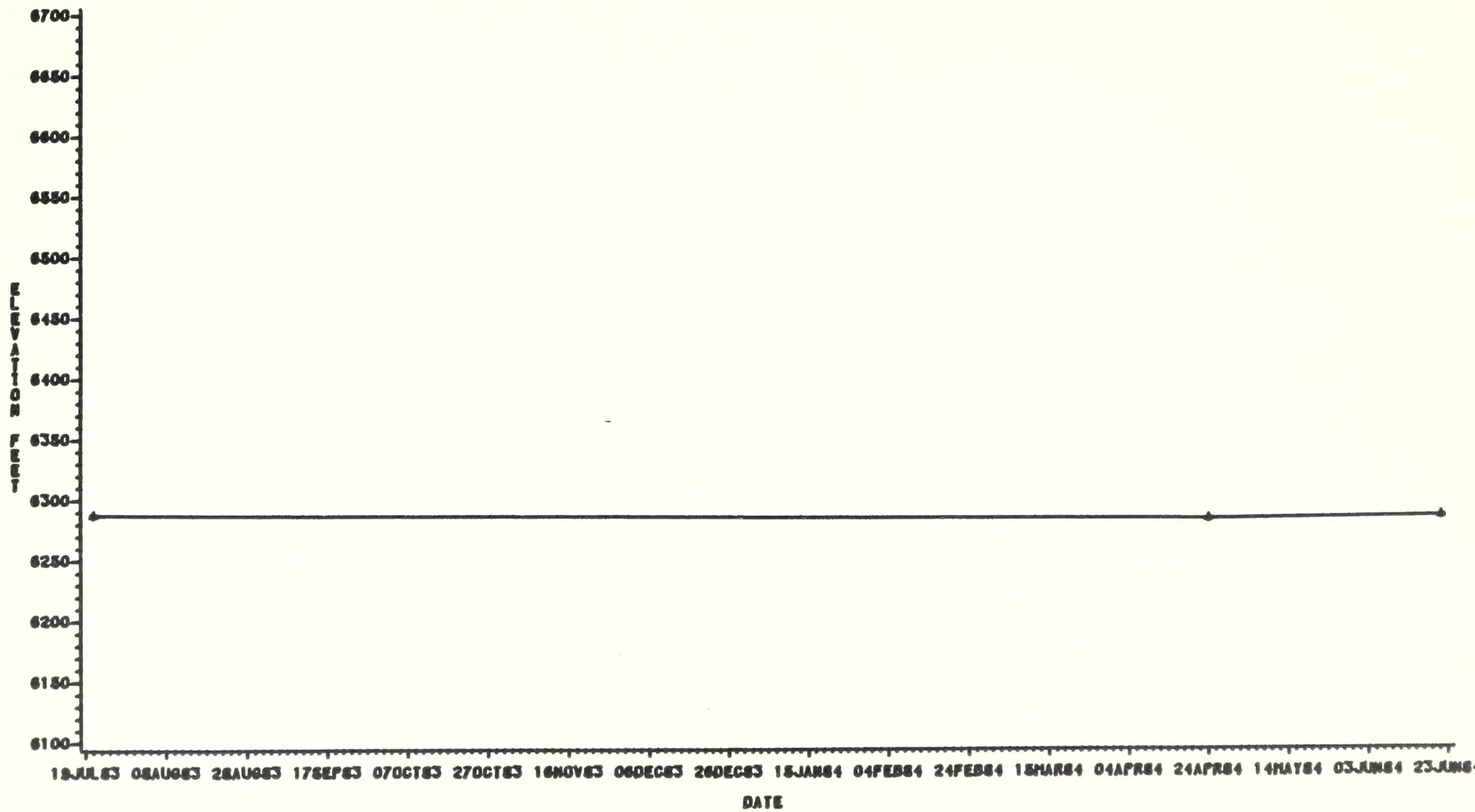
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=MA21



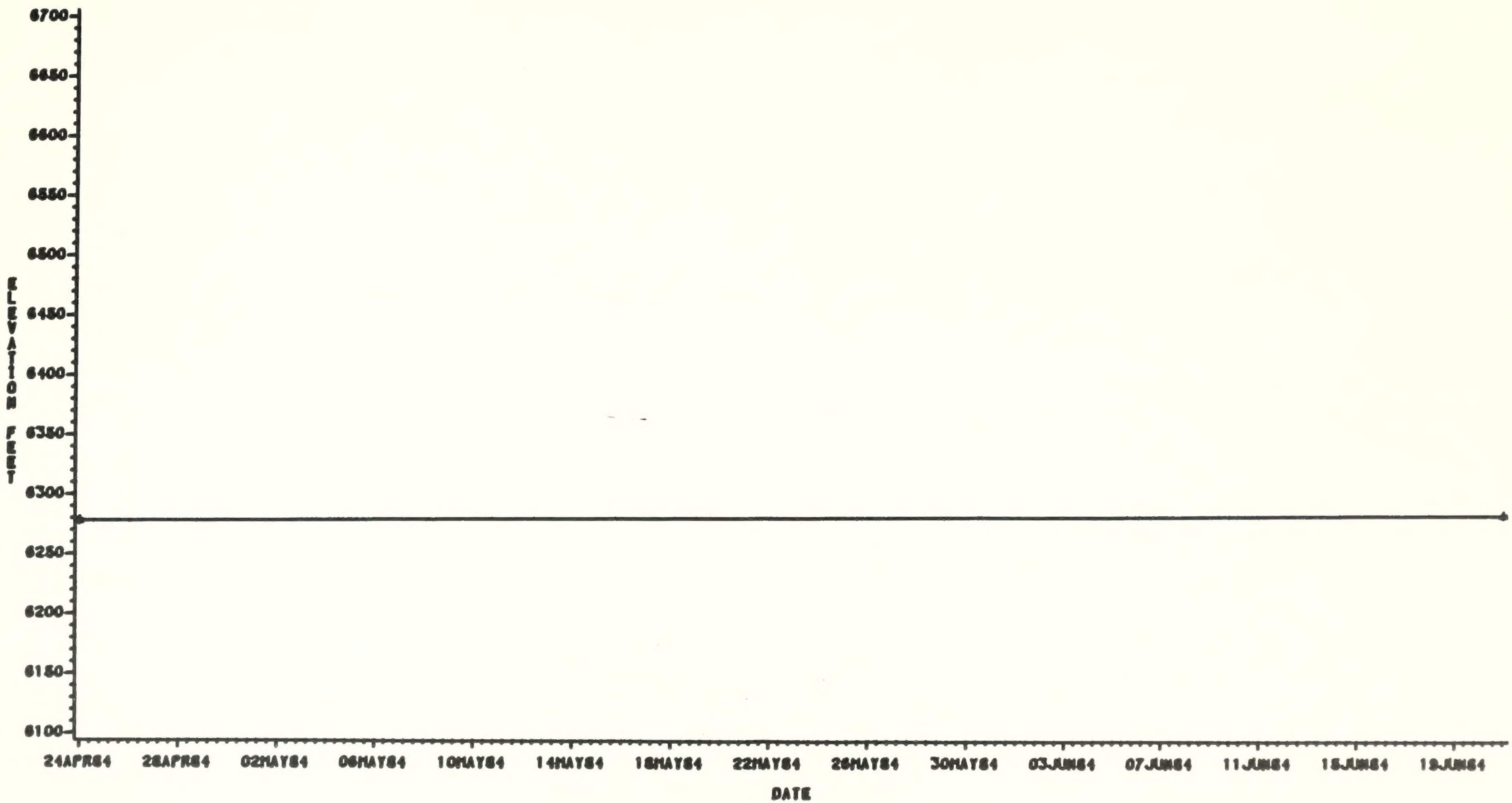
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA22



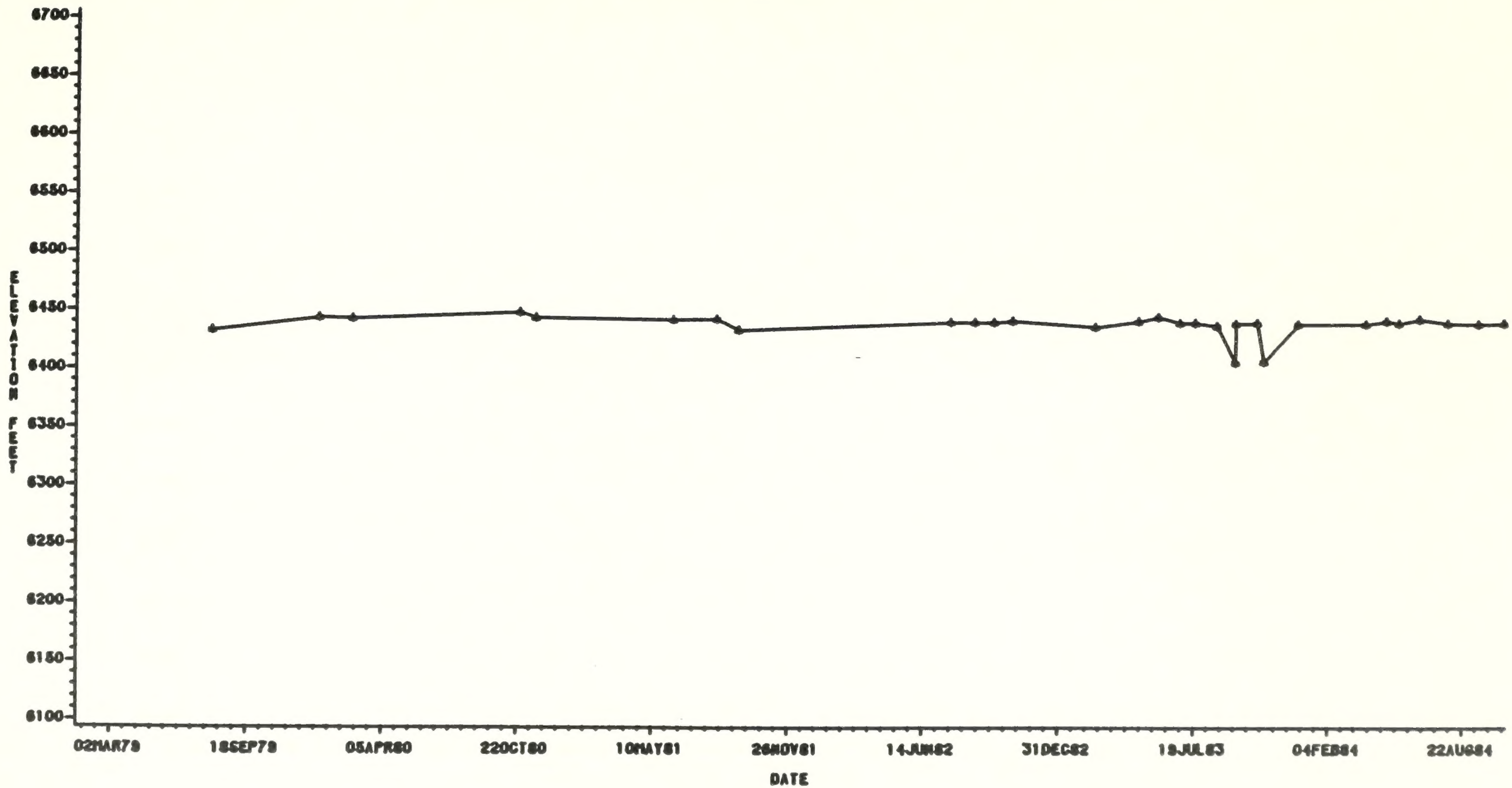
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WA24



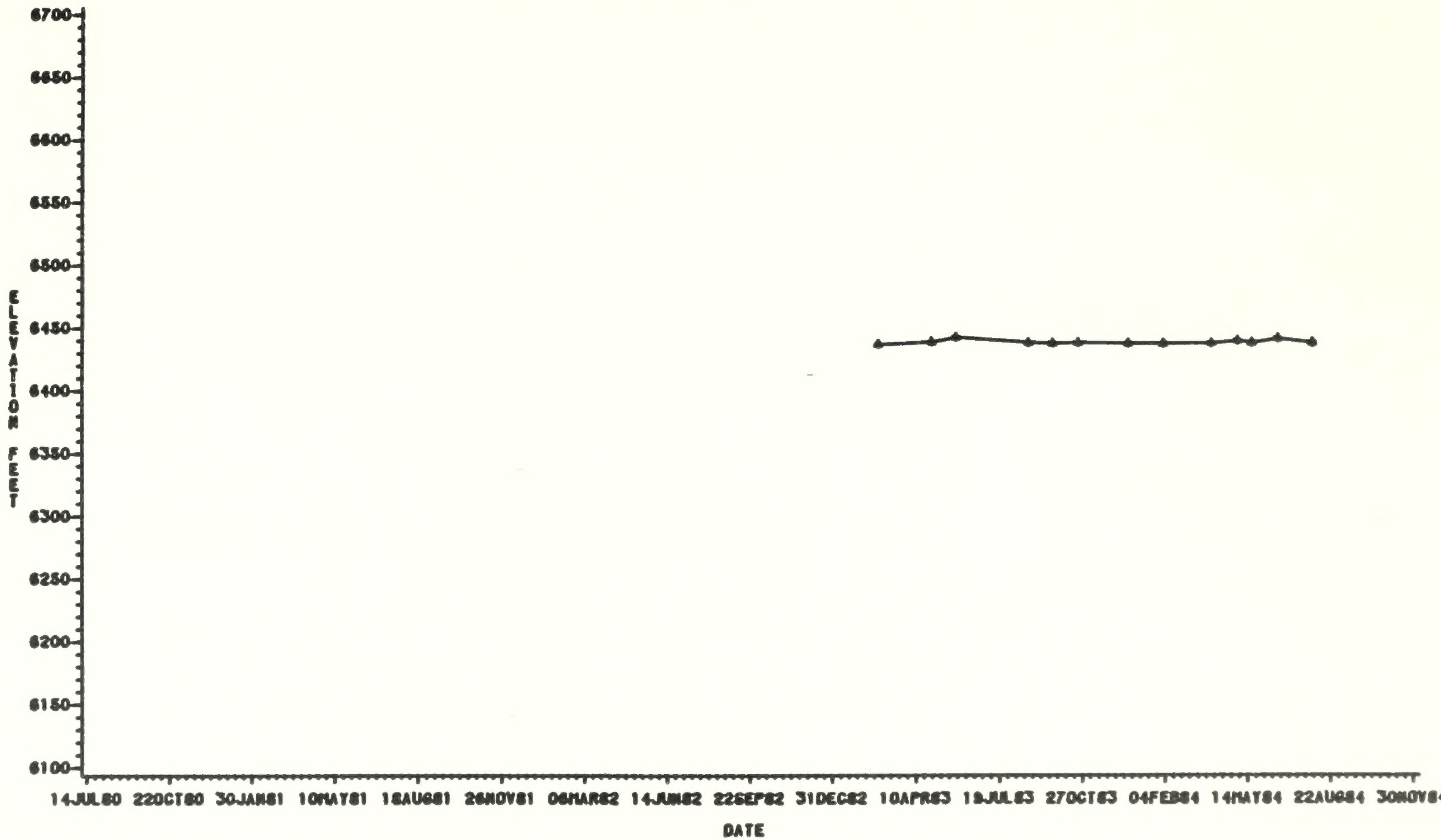
WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WASS



WATER LEVEL PLOTS IN ALLUVIAL WELLS

LOC=WAS6



BEDROCK
WELLS

1.2.1.4 Bedrock Wells

This section contains well water elevation readings sampled below the alluvium. Data are presented in tabular format for the sample period June through November 1984 and time series plots for 1979 through November 1984. Monitoring of these wells is a requirement of the Interim Monitoring Program (IMP) and the Water Augmentation Plan (WAP), State of Colorado Court, Division 5.

The deep well monitoring network on C-b Tract is presented in 2 figures in this section, Figures 1.2.1.4-1 and 1.2.1.4-2. Well computer codes on these figures are defined as:

Upper Uinta Formation	- WB$$
Uinta Formation	- WC$$
Upper Parachute Creek 1 (UPC_1)	- WD$$
Upper Parachute Creek 2 (UPC_2)	- WE$$
Lower Parachute Creek 3 (LPC_3)	- WG$$
Lower Parachute Creek 4 (LPC_4)	- WH$$
Upper Aquifer Zone	- WX$$
Lower Aquifer Zone	- WY$$

Sampling frequencies for these wells vary by type, location (in respect to Tract) and purpose of monitoring. Table 1.2-1 in Section 1.2 references the sampling requirements for each well. This table replaced Exhibit B, which displayed monitoring requirements for the WAP during development on C-b Tract.

Tables and figures of data reported in this section are presented in the following list:

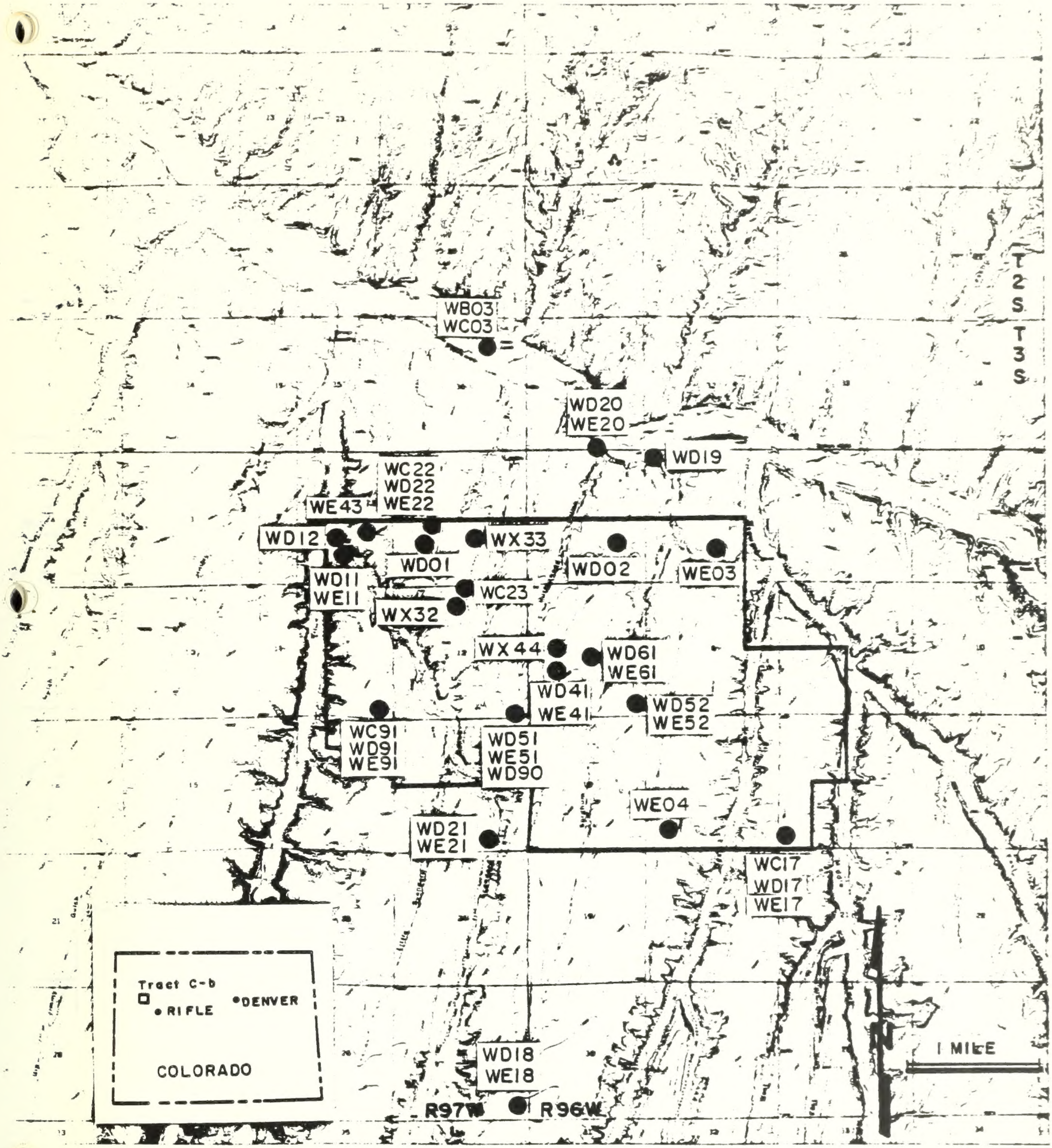


FIGURE 1.2.1.4-1 DEEP WELL MONITORING NETWORK NEAR C-b TRACT FOR UINTA, UPC_1 AND UPC_2 ZONES

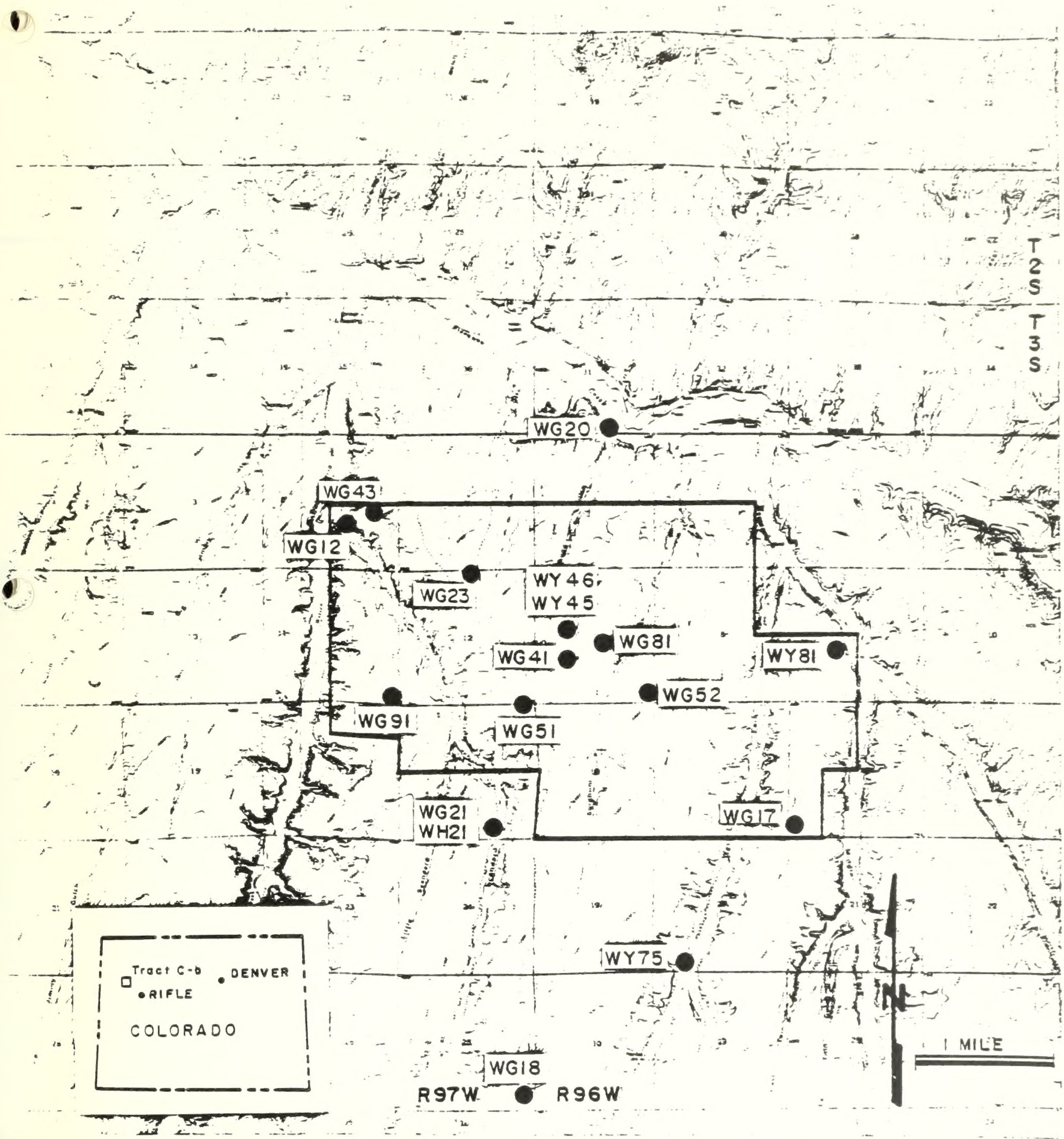


FIGURE 1.2.1.4-2 DEEP WELL MONITORING NETWORK NEAR C-b TRACT FOR LPC_3, LPC_4 ZONES

TABLE 1.2.1.4-1

CB-TRACT
WATER LEVELS
UPPER UNITA FORMATION ZONE
FOR SAMPLE DATE SHOWN

			WELL ID	
			WB03	WB21
			DEPTH	DEPTH
YR	MO	DY	(FT)	(FT)
84	6	21	6286	FLWING

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-2

CB-TRACT
WATER LEVELS
UNITAH FORMATION ZONE
FOR SAMPLE DATE SHOWN

YR	MO	DY	WELL ID WC03 DEPTH (FT)	WC17 DEPTH (FT)	WC22 DEPTH (FT)	WC23 DEPTH (FT)	WC91 DEPTH (FT)
84	6	14					6520
		19				6424	
		21	6286				
		25		6657			
		28			6341	6425	
	7	31			6341	6429	
	8	29		6656			
		30				6430	
		31			6344		
	9	26			6342	6428	
	10	29			6341	6427	6523
		30		6655			
	11	30			6345	6433	

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-3

CB-TRACT
WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD02 ELEV (FT)	WD12 ELEV (FT)	WD14 ELEV (FT)	WD15 ELEV (FT)	WD17 ELEV (FT)	WD18 ELEV (FT)	WD19 ELEV (FT)
84	6	11			6478	6516			
		12	6427	6357					
		18							6353
		25		6357			6643		
	7	23							6355
		26	6429		6478	6518		6915	
		30		6357					
	8	14			6478	6518			
		27	6429						
		29					6641		
		31		6357					6353
	9	25	6428		6478	6518			
		26						6915	6351
		27		6357					
	10	25	6428		6478	6518			
		29		6357					6351
		30					6641		
	11	20	6427						
		29		6357	6478	6519		6915	
		30							6350

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-3 (cont'd)

CB-TRACT
WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD20 ELEV (FT)	WD21 ELEV (FT)	WD22 ELEV (FT)	WD41 ELEV (FT)	WD51 ELEV (FT)	WD52 ELEV (FT)	WD57 ELEV (FT)	WD61 ELEV (FT)	WD90 ELEV (FT)	WD91 ELEV (FT)
84	6	12		6699		6508				6537		
		13						6570				
		14										6482
		18	6333				6599				6599	
		25							6638			
		28			6329						6597	
	7	2	6335									
		9						6571				
		23	6335									
		26								6537		
		30		6699								
		31			6330		6598				6595	
	8	16				6509						
		27								6533		
		29							6638			
		30		6699			6597				6595	
		31	6333		6333							
	9	17					6597				6594	
		25								6533		
		26	6332		6331							
		27		6699				6573				
	10	25				6509	6596	6574		6533	6593	
		29	6332	6700	6330							6482
		30							6639			
	11	29		6699				6574		6536		
		30	6332		6334						6594	

PLUGGED = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL DRY
INACCS = WELL INACCESSABLE

CB-TRACT TABLE 1.2.1.4-4
WATER LEVELS
UPPER PARACHUTE - CREEK 2
FOR SAMPLE DATE SHOWN

YR	MO	DY	WE03 ELEV (FT)	WE04 ELEV (FT)	WE17 ELEV (FT)	WE18 ELEV (FT)	WE20 ELEV (FT)	WE21 ELEV (FT)	WE41 ELEV (FT)	WE43 ELEV (FT)	WE51 ELEV (FT)	WE52 ELEV (FT)	WE61 ELEV (FT)	WE91 ELEV (FT)
84	6	12						6644	6461				6537	
		13	6364	6658								6570		
		14												6448
		18					6330				6510			
		25			6623									
		28								6332				
	7	2					6331							
		9										6569		
		19	6364	6660										
		23					6331							
		26				6915							6537	
		30						6640		6333				
		31									6509			
	8	16							6460					
		27	6365	6660						6335		6554	6533	
		29			6623									
		30						6640			6507			
		31					6331							
	9	17									6507			
		25											6533	
		26				6915	6332							
		27	6366	6661				6628		6335		6573		
	10	25	6367	6661					6458		6506	6567	6533	
		29					6332	6630		6335				6449
		30			6623									
	11	29	6365	6660		6916		6628			6505	6609	6536	
		30					6332			6334				

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-5

CB-TRACT
WATER LEVELS FOR LOWER PARACHUTE CREEK
FOR SAMPLE DATE SHOWN

YR	MO	DY	WG12 ELEV (FT)	WG14 ELEV (FT)	WG17 ELEV (FT)	WG18 ELEV (FT)	WG20 ELEV (FT)	WG21 ELEV (FT)	WG23 ELEV (FT)	WG40 ELEV (FT)	WG41 ELEV (FT)	WG43 ELEV (FT)	WG51 ELEV (FT)	WG52 ELEV (FT)	WG61 ELEV (FT)	WG91 ELEV (FT)	WH21 ELEV (FT)
			WG - LPC3								WH - LPC4						
84	6	12	6236					6644			6272				6258		6644
		13												6561			
		14														6302	
		18					6330						6345				
		19							6028								
		25	6236		6623												
		28							6028			6297					
	7	2					6331										
		9												6562			
		23					6331										
		26				6841									6263		
		30	6254					6640				6280					6640
		31		6231					6026	6367			6342				
	8	16									6269						
		27										6294		6562	6298		
		29			6623												
		30						6639	6027				6340				6639
		31	6254				6331										
	9	17											6340				
		25													6434		
		26				6841	6332		6024								
		27	6254					6628				6289		6560			6628
	10	25									6265		6337	6562	6455		
		29	6254				6332	6630	6023			6288				6295	6630
		30			6623												
	11	29	6254			6842		6629					6336	6564	6489		6629
		30					6332		6024			6284					

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-6

CB-TRACT
WATER LEVELS IN UPPER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

		WELL ID - M.P. ELEV (FT)		
		WX32	WX38	WX44
YR	MO	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)
84	6		6456	6458
	7		6456	6458
	8	5925	6455	6458
	9		6455	6458
	10	5923	6456	6458
	11	5921		6458

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-7

CB-TRACT
WATER LEVELS IN UPPER AQUIFER WELLS
REQUIRED BY WATER AUGMENTATION PLAN
FOR SAMPLE DATE SHOWN

		WELL ID - MEASURING POINT ELEVATION (FT)						
		WX64	WX65	WX67	WX69	WX71	WX72	WX73
		DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH
YR	MO	(FT)	(FT)	(FT)	(FT)	(FT)	(FT)	(FT)
84	7	6800	6331	6309	6901	CAPPED	6761	7652
	10	INACSS	6331	6309	6902	DRY	6761	7648

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE
NS = NOT SAMPLED
CAPPED = WELL HEAD CAPPED

TABLE 1.2.1.4-8

CB-TRACT
WATER LEVELS IN LOWER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

		WELL ID-M.P. ELEV(FT)			
		WY44	WY45	WY46	WY81
YR	MO	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)
84	6	6270		6271	6532
	7	6269		6269	6531
	8	6267		6268	6530
	9	6265		6267	6530
	10	6264		6266	6529
	11	6262		6263	6529

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

TABLE 1.2.1.4-9

CB-TRACT
WATER LEVELS IN LOWER AQUIFER WELLS
REQUIRED BY WATER AUGMENTATION PLAN
FOR SAMPLE DATE SHOWN

		WELL ID - MEASURING POINT ELEVATION (FT)													
YR	MO	WY64 DEPTH (FT)	WY65 DEPTH (FT)	WY66 DEPTH (FT)	WY67 DEPTH (FT)	WY68 DEPTH (FT)	WY69 DEPTH (FT)	WY70 DEPTH (FT)	WY71 DEPTH (FT)	WY72 DEPTH (FT)	WY75 DEPTH (FT)	WY76 DEPTH (FT)	WY77 DEPTH (FT)	WY78 DEPTH (FT)	WY79 DEPTH (FT)
84	7	6423	6311		6233	6486	6885	6961	6568	6776	6773	6864		7076	6624
	10	6421	6312		6233	6486	6884	6962	6569	6776	6774	6864		7076	6626

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE
NS = NOT SAMPLED

TABLE 1.2.1.4-10

CB-TRACT
WATER LEVELS IN COMPOSITE WELLS
REQUIRED BY WATER AUGMENTATION PLAN
FOR SAMPLE DATE SHOWN

		WELL ID - MEASURING POINT ELEVATION (FT)						
		WV01	WV02	WV03	WV04	WV05	WV10	WV37
YR	MO	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)	DEPTH (FT)
84	6						6573	6482
	7	6334				7362	6573	6482
	8						6573	6481
	9							6480
	10	6335				7362		6478
	11							6477

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE
NS = NOT SAMPLED
CAPPED = WELL HEAD CAPPED

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL	
			WX32	WX38
YR	MO	DY	DEPTH (FT)	DEPTH (FT)
84	5	1	5929.31	6457.22
		2	5929.31	6457.19
		3	5929.31	6457.14
		4	5929.31	6457.14
		5	5929.31	6457.19
		6	5929.63	6457.09
		7	5928.52	6456.90
		8	5928.44	6456.85
		9	5928.44	6456.92
		10	5928.43	6457.00
		11	5928.43	6456.93
		12	5928.43	6456.84
		13	5928.43	6456.80
		14	5928.43	6456.88
		15	5928.43	6457.01
		16	5928.43	6456.98
		17	5928.31	6456.92
		18	5929.20	6456.88
		19	5929.20	6456.88
		20	5929.18	6456.92
		21	5929.18	6457.01
		22	5929.61	6456.82
		23	5928.88	6456.78
		24	5928.79	6456.84
		25	5928.79	6456.88
		26	5928.79	6456.80
		27	5928.70	6456.76
		28	5930.54	6456.64
		29	5930.53	6456.50
		30	5930.53	6456.49
		31	5930.53	6456.55
	6	1	5930.53	6456.61
		2	5930.54	6456.64
		3	5930.54	6456.59
		4	5927.39	6456.72
		5	5928.00	6456.76
		6	5927.85	6456.77
		7	5926.39	6456.78
		8	5926.33	6456.83
		9	5926.61	6456.84
		10	5925.46	6456.76
		11	5925.46	6456.81
		12	5925.44	6456.67
		13	5925.44	6456.62
		14	5925.44	6456.59

TABLE 1.2.1.4-11 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

YR	MO	DY	WELL ID - FT FROM GROUND LEVEL WX32 DEPTH (FT)	WX38 DEPTH (FT)
84	6	15	5925.44	6456.52
		16	5925.44	6456.42
		17	5925.44	6456.35
		18	5925.44	6456.28
		19	5925.44	6456.26
		20	5925.44	6456.29
		21	5925.44	6456.28
		22	5925.44	6456.25
		23	5925.44	6456.20
		24	5925.44	6456.11
		25	5925.44	6456.08
		26	5925.44	6456.07
		27	5925.44	6456.12
		28	5925.44	6456.17
		29	5928.66	6456.20
		30	5928.66	6456.28
	7	1	5928.67	6456.32
		2	5930.56	6456.35
		3	5927.48	6456.39
		4	5927.32	6456.38
		5	5927.80	6456.39
		6	5927.68	6456.37
		7	5926.48	6456.39
		8	5926.32	6456.38
		9	5926.61	6456.34
		10	5925.34	6456.38
		11	5925.88	6456.30
		12	5925.87	6456.30
		13	5925.87	6456.33
		14	5925.87	6456.32
		15	5925.87	6456.25
		16	5925.87	6456.21
		17	5925.87	6456.24
		18	5925.87	6456.29
		19	5925.87	6456.28
		20	5925.87	6456.28
		21	5925.87	6456.28
		22	5925.87	6456.25
		23	5925.87	6456.19
		24	5925.87	6456.09
		25	5925.87	6456.00
		26	5925.87	6455.99
		27	5926.46	6456.00
		28	5926.46	6456.03
		29	5926.46	6456.03

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL	
			WX32	WX38
YR	MO	DY	DEPTH (FT)	DEPTH (FT)
84	7	30	5926.44	6456.05
		31	5926.37	6456.10
	8	1	5926.37	6456.10
		2	5926.99	6456.06
		3	5925.31	6456.01
		4	5926.02	6456.00
		5	5926.02	6455.98
		6	5926.02	6455.96
		7	5925.81	6455.89
		8	5925.62	6455.86
		9	5927.51	6455.87
		10	5927.51	6455.84
		11	5927.51	6455.84
		12	5924.33	6455.79
		13	5924.90	6455.79
		14	5924.75	6455.73
		15	5924.70	6455.73
		16	5924.70	6455.71
		17	5924.70	6455.70
		18	5924.70	6455.70
		19	5924.70	6455.69
		20	5924.70	6455.72
		21	5924.70	6455.66
		22	5924.71	6455.59
		23	5924.70	6455.60
		24	5924.71	6455.60
		25	5924.71	6455.60
		26	5924.70	6455.53
		27	5927.51	6455.52
		28	5927.51	6455.53
		29	5927.51	6455.46
		30	5927.51	6455.47
		31	5927.51	6455.56
	9	1	5927.51	6455.59
		2	5927.51	6455.51
		3	5927.51	6455.49
		4	5927.51	6455.47
		5	5927.51	6455.48
		6	5925.06	6455.59
		7	5924.96	6455.65
		8	5924.96	6455.55
		9	5924.64	6455.60
		10	5923.33	6455.72
		11	5923.84	6455.82
		12	5923.84	6455.78

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL	
			WX32	WX38
YR	MO	DY	DEPTH (FT)	DEPTH (FT)
84	9	13	5923.84	6455.79
		14	5923.84	6455.83
		15	5923.84	6455.83
		16	5923.84	6455.68
		17	5923.84	6455.64
		18	5923.84	6455.54
		19	5923.84	6455.54
		20	5923.84	6455.79
		21	5923.84	6455.86
		22	5923.17	6455.82
		23	5923.15	6455.85
		24	5923.15	6455.80
		25	5923.15	6455.77
		26	5923.15	6455.83
		27	5923.14	6455.81
		28	5923.14	6455.75
		29	5923.13	6455.69
		30	5923.13	6455.73
	10	1	5923.13	6455.81
		2	5923.13	6455.74
		3	5923.13	6455.77
		4	5923.13	6455.93
		5	5923.13	6455.95
		6	5923.13	6455.89
		7	5923.13	6455.86
		8	5923.13	6455.87
		9	5923.13	6455.91
		10	5923.13	6455.87
		11	5923.13	6455.88
		12	5923.13	6455.87
		13	5922.81	6455.86
		14	5922.66	6456.00
		15	5921.96	6456.16
		16	5921.96	6456.22
		17	5921.95	6456.32
		18	5921.95	6456.29
		19	5921.95	6456.36
		20	5921.95	6456.49
		21	5921.95	6456.46
		22	5921.95	6456.42
		23	5921.95	6456.38
		24	5921.95	6456.27
		25	5922.94	6456.20
		26	5922.92	6456.19
		27	5922.92	6456.21

TABLE 1.2.1.4-11 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL	
			WX32	WX38
YR	MO	DY	DEPTH (FT)	DEPTH (FT)
84	10	28	5922.92	6456.19
		29	5922.92	6456.17
		30	5922.91	6456.17
		31	5922.91	6456.26
	11	1	5922.91	6456.14
		2	5922.91	6456.15
		3	5922.91	6456.13
		4	5922.91	6455.99
		5	5922.91	6455.96
		6	5922.91	6456.00
		7	5922.91	6456.08
		8	5922.91	6456.10
		9	5922.91	6455.97
		10	5922.91	6455.99
		11	5922.91	6456.02
		12	5923.71	6456.01
		13	5923.71	6456.02
		14	5923.71	6455.94
		15	5923.71	6455.89
		16	5923.71	6455.92
		17	5922.31	6456.04
		18	5922.61	6456.03
		19	5922.61	6455.92
		20	5924.57	6455.91
		21	5924.57	6455.93
		22	5924.57	6455.95
		23	5924.57	6455.98
		24	5924.57	6456.16
		25	5921.34	6456.32
		26	5921.97	6456.07
		27	5921.95	6456.06
		28	5921.95	6456.12
		29	5921.95	6456.16
		30	5921.95	6456.15

CB-TRACT
STEVENS RECORDER WATER LEVELS
LOWER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL
			WY44
YR	MO	DY	DEPTH (FT)
84	5	1	6274.47
		2	6274.41
		3	6274.34
		4	6274.29
		5	6274.22
		6	6273.93
		7	6273.79
		8	6273.78
		9	6273.81
		10	6273.71
		11	6273.58
		12	6273.46
		13	6273.42
		14	6273.39
		15	6273.41
		16	6273.26
		17	6273.18
		18	6273.09
		19	6273.04
		20	6273.07
		21	6272.96
		22	6272.79
		23	6272.78
		24	6272.77
		25	6272.80
		26	6272.73
		27	6272.68
		28	6272.53
		29	6272.37
		30	6272.33
		31	6272.33
	6	1	6272.33
		2	6272.30
		3	6272.21
		4	6272.28
		5	6272.26
		6	6272.17
		7	6272.17
		8	6272.07
		9	6271.97
		10	6271.88
		11	6271.84
		12	6270.90
		13	6270.80
		14	6270.70

TABLE 1.2.1.4-12 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
LOWER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL
			WY44
YR	MO	DY	DEPTH (FT)
84	6	15	6270.61
		16	6270.53
		17	6270.49
		18	6270.43
		19	6270.37
		20	6270.33
		21	6270.28
		22	6270.22
		23	6270.13
		24	6270.00
		25	6269.91
		26	6269.84
		27	6269.80
		28	6269.73
		29	6269.64
		30	6269.61
	7	1	6269.55
		2	6269.49
		3	6269.44
		4	6269.37
		5	6269.29
		6	6269.24
		7	6269.18
		8	6269.09
		9	6269.00
		10	6268.94
		11	6268.83
		12	6268.74
		13	6268.72
		14	6268.66
		15	6268.54
		16	6268.46
		17	6268.48
		18	6268.44
		19	6268.37
		20	6268.85
		21	6268.86
		22	6268.87
		23	6268.81
		24	6268.90
		25	6269.46
		26	6269.40
		27	6269.15
		28	6268.97
		29	6268.85

TABLE 1.2.1.4-12 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
LOWER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL
			WY44
YR	MO	DY	DEPTH (FT)
84	7	30	6268.80
		31	6268.78
	8	1	6268.73
		2	6268.67
		3	6268.58
		4	6268.52
		5	6268.45
		6	6268.40
		7	6268.28
		8	6268.22
		9	6268.17
		10	6268.09
		11	6268.02
		12	6267.93
		13	6267.89
		14	6267.85
		15	6267.78
		16	6267.73
		17	6267.68
		18	6267.62
		19	6267.55
		20	6267.51
		21	6267.38
		22	6267.28
		23	6267.22
		24	6267.19
		25	6267.15
		26	6267.05
		27	6267.01
		28	6266.99
		29	6266.90
		30	6266.86
		31	6266.91
	9	1	6266.86
		2	6266.77
		3	6266.72
		4	6266.70
		5	6266.70
		6	6266.78
		7	6266.76
		8	6266.65
		9	6266.65
		10	6266.68
		11	6266.66
		12	6266.26

TABLE 1.2.1.4-12 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
LOWER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL
			WY44
YR	MO	DY	DEPTH (FT)
84	9	13	6266.10
		14	6266.06
		15	6266.03
		16	6265.96
		17	6265.88
		18	6265.79
		19	6265.76
		20	6265.82
		21	6265.90
		22	6265.80
		23	6265.76
		24	6265.58
		25	6265.50
		26	6265.54
		27	6265.52
		28	6265.44
		29	6265.41
		30	6265.34
	10	1	6265.34
		2	6265.35
		3	6265.22
		4	6265.19
		5	6265.24
		6	6265.11
		7	6264.94
		8	6264.84
		9	6264.85
		10	6264.87
		11	6264.84
		12	6264.83
		13	6264.72
		14	6264.71
		15	6264.72
		16	6264.80
		17	6264.68
		18	6264.71
		19	6264.52
		20	6264.52
		21	6264.47
		22	6264.34
		23	6264.25
		24	6264.21
		25	6264.21
		26	6264.15
		27	6264.14

TABLE 1.2.1.4-12 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
LOWER AQUIFER WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL
			WY44
			DEPTH
YR	MO	DY	(FT)
84	10	28	6264.13
		29	6264.06
		30	6263.94
		31	6263.91
	11	1	6263.85
		2	6263.68
		3	6263.68
		4	6263.66
		5	6263.51
		6	6263.44
		7	6263.49
		8	6263.47
		9	6263.45
		10	6263.19
		11	6263.17
		12	6263.12
		13	6263.08
		14	6263.04
		15	6262.93
		16	6262.85
		17	6262.86
		18	6262.86
		19	6262.80
		20	6262.65
		21	6262.56
		22	6262.54
		23	6262.46
		24	6262.46
		25	6262.53
		26	6262.60
		27	6262.39
		28	6262.28
		29	6262.26
		30	6262.20

TABLE 1.2.1.4-13

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD12 DEPTH (FT)	WD90 DEPTH (FT)
84	5	1	6355.53	6599.52
		2	6355.60	6599.52
		3	6355.55	6599.52
		4	6355.61	6599.51
		5	6355.66	6599.51
		6	6355.55	6599.51
		7	6355.36	6599.51
		8	6355.37	6599.51
		9	6355.50	6599.51
		10	6355.64	6599.50
		11	6355.57	6599.51
		12	6355.49	6599.51
		13	6355.45	6599.51
		14	6355.53	6599.51
		15	6355.64	6599.51
		16	6355.63	6599.51
		17	6355.61	6599.51
		18	6355.60	6599.51
		19	6355.64	6599.51
		20	6355.73	6599.51
		21	6355.94	6599.50
		22	6355.90	6599.50
		23	6355.76	6599.51
		24	6355.75	6599.51
		25	6355.97	6599.51
		26	6355.96	6599.51
		27	6355.96	6599.51
		28	6355.89	6599.51
		29	6355.81	6599.50
		30	6355.92	6599.48
		31	6356.05	6599.48
	6	1	6356.17	6599.48
		2	6356.27	6599.51
		3	6356.31	6599.50
		4	6356.49	6599.50
		5	6356.58	6599.51
		6	6356.68	6599.51
		7	6356.69	6599.50
		8	6356.78	6599.50
		9	6356.80	6599.50
		10	6356.81	6599.50
		11	6356.89	6599.50
		12	6356.93	6599.50
		13	6356.95	6599.50
		14	6356.99	6599.49

TABLE 1.2.1.4-13 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD12 DEPTH (FT)	WD90 DEPTH (FT)
84	6	15	6357.01	
		16	6357.06	
		17	6357.12	
		18	6357.18	
		19	6357.24	
		20	6357.32	
		21	6357.39	
		22	6357.44	
		23	6357.50	
		24	6357.50	
		25	6357.50	
		26	6356.54	
		27	6356.67	
		28	6356.74	6597.00
		29	6356.84	6597.06
		30	6356.80	6597.06
	7	1	6356.83	6597.02
		2	6356.91	6597.02
		3	6357.03	6596.97
		4	6357.07	6596.94
		5	6357.10	6596.94
		6	6357.16	6596.92
		7	6357.25	6596.86
		8	6357.31	6596.86
		9	6357.33	6596.77
		10	6357.39	6596.75
		11	6357.36	6596.77
		12	6357.39	6596.79
		13	6357.46	6596.71
		14	6357.50	6596.50
		15	6357.48	6596.53
		16	6357.49	6596.53
		17	6357.54	6596.50
		18	6357.62	6596.50
		19	6357.65	6596.52
		20	6357.66	6596.34
		21	6357.67	6596.23
		22	6357.71	6596.21
		23	6357.67	6596.20
		24	6357.61	6596.20
		25	6357.60	6596.17
		26	6357.62	6596.17
		27	6357.64	6596.15
		28	6357.64	6596.13
		29	6357.66	6596.13

TABLE 1.2.1.4-13 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD12 DEPTH (FT)	WD90 DEPTH (FT)
84	7	30	6357.67	6596.18
		31	6357.74	6595.98
	8	1	6357.74	6596.04
		2	6357.77	6596.04
		3	6357.77	6596.03
		4	6357.73	6596.03
		5	6357.75	6596.04
		6	6357.73	6596.04
		7	6357.74	6596.04
		8	6357.69	6596.03
		9	6357.68	6596.03
		10	6357.70	6596.03
		11	6357.70	6596.03
		12	6357.72	6596.03
		13	6357.69	6596.04
		14	6357.70	6596.03
		15	6357.74	6596.03
		16	6357.71	6595.68
		17	6357.71	6595.50
		18	6357.73	6595.48
		19	6357.73	6595.48
		20	6357.76	6595.50
		21	6357.71	6595.71
		22	6357.64	6595.71
		23	6357.65	6595.71
		24	6357.65	6595.71
		25	6357.60	6595.71
		26	6357.61	6595.71
		27	6357.63	6595.71
		28	6357.63	6595.71
		29	6357.60	6595.71
		30	6357.60	6595.71
		31	6357.70	6595.19
	9	1	6357.73	6595.22
		2	6357.62	6595.33
		3	6357.57	6595.06
		4	6357.57	6595.01
		5	6357.57	6594.89
		6	6357.67	6594.88
		7	6357.69	6594.98
		8	6357.59	6595.24
		9	6357.63	6595.24
		10	6357.68	6595.23
		11	6357.69	6595.23
		12	6357.61	6595.24

TABLE 1.2.1.4-13 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD12 DEPTH (FT)	WD90 DEPTH (FT)
84	9	13	6357.57	6595.23
		14	6357.56	6595.23
		15	6357.59	6595.23
		16	6357.58	6595.23
		17	6357.55	6595.23
		18	6357.51	6594.27
		19	6357.54	6594.27
		20	6357.65	6594.28
		21	6357.82	6594.28
		22	6357.76	6594.28
		23	6357.76	6594.21
		24	6357.76	6594.08
		25	6357.76	6594.09
		26	6357.62	6594.08
		27	6357.67	6593.99
		28	6357.68	6593.98
		29	6357.64	6594.02
		30	6357.63	6594.08
	10	1	6357.69	6594.04
		2	6357.78	6594.04
		3	6357.74	6594.00
		4	6357.77	6593.72
		5	6357.89	6593.58
		6	6357.84	6593.59
		7	6357.75	6593.65
		8	6357.69	6593.82
		9	6357.75	6593.82
		10	6357.86	6593.79
		11	6357.87	6593.65
		12	6357.88	6593.72
		13	6357.86	6593.89
		14	6357.92	6593.77
		15	6357.95	6593.78
		16	6358.01	6593.61
		17	6358.04	6593.64
		18	6357.91	6593.64
		19	6357.81	6593.49
		20	6357.81	6593.31
		21	6357.82	6593.27
		22	6357.83	6593.32
		23	6357.93	6593.28
		24	6357.92	6593.31
		25	6357.91	6593.37
		26	6357.88	6593.31
		27	6357.88	6593.18

TABLE 1.2.1.4-13 ~~(cont'd)~~

CB-TRACT
STEVENS RECORDER WATER LEVELS
UPPER PARACHUTE - CREEK 1
FOR SAMPLE DATE SHOWN

YR	MO	DY	WD12 DEPTH (FT)	WD90 DEPTH (FT)
84	10	28	6357.81	6593.18
		29	6357.76	6593.03
		30	6357.79	6592.95
		31	6357.86	6593.01
	11	1	6357.76	6592.97
		2	6357.76	6592.89
		3	6357.92	6592.90
		4	6357.87	6593.20
		5	6357.91	6593.20
		6	6357.72	6592.82
		7	6357.76	6592.82
		8	6357.77	6592.83
		9	6357.79	6592.83
		10	6357.81	6592.88
		11	6357.68	6592.71
		12	6357.74	6592.70
		13	6357.81	6592.81
		14	6357.69	6592.82
		15	6357.65	6592.65
		16	6357.65	6592.53
		17	6357.63	6592.56
		18	6357.64	6592.51
		19	6357.70	6592.51
		20	6357.71	6592.74
		21	6357.68	6592.97
		22	6357.62	6592.50
		23	6357.63	6592.45
		24	6357.64	6592.55
		25	6357.65	6592.56
		26	6357.69	6592.54
		27	6357.71	6592.55
		28	6357.72	6592.58
		29	6357.73	6592.59
		30	6357.74	6593.50

TABLE 1.2.1.4-14

CB-TRACT
STEVENS RECORDER WATER LEVELS FOR LOWER PARACHUTE CREEK
FOR SAMPLE DATE SHOWN

WG - LPC3 WH - LPC4

YR	MO	DY	WG12 DEPTH (FT)
84	5	1	6237.55
		2	6237.55
		3	6237.53
		4	6237.52
		5	6237.50
		6	6237.32
		7	6237.17
		8	6237.13
		9	6237.12
		10	6237.11
		11	6237.11
		12	6237.05
		13	6236.98
		14	6236.97
		15	6236.97
		16	6236.94
		17	6236.93
		18	6236.88
		19	6236.85
		20	6236.84
		21	6236.84
		22	6236.80
		23	6236.77
		24	6236.72
		25	6236.71
		26	6236.70
		27	6236.67
		28	6236.60
		29	6236.47
		30	6236.45
		31	6236.45
	6	1	6236.45
		2	6236.44
		3	6236.44
		4	6236.44
		5	6236.43
		6	6236.43
		7	6236.44
		8	6236.43
		9	6236.42
		10	6236.39
		11	6236.36
		12	6236.34
		13	6236.20

TABLE 1.2.1.4-14 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS FOR LOWER PARACHUTE CREEK
FOR SAMPLE DATE SHOWN

WG - LPC3 WH - LPC4

YR	MO	DY	WG12 DEPTH (FT)
84	6	14	6236.20
		15	6236.15
		16	6236.12
		17	6236.10
		18	6236.09
		19	6236.05
		20	6236.04
		21	6236.02
		22	6236.00
		23	6235.94
		24	6235.84
		25	6235.79
		26	6235.76
		29	6249.70
		30	6249.69
	7	1	6249.69
		2	6249.69
		3	6249.70
		4	6249.70
		5	6249.70
		6	6249.70
		7	6249.70
		8	6249.70
		9	6249.69
		10	6249.70
		11	6249.70
		12	6249.69
		13	6249.70
		14	6249.70
		15	6249.69
		16	6249.69
		17	6249.69
		18	6249.70
		19	6249.70
		20	6249.70
		21	6249.70
		22	6249.70
		23	6249.70
		24	6249.69
		25	6249.69
		26	6249.69
		27	6249.70
		28	6249.70
		29	6249.70

TABLE 1.2.1.4-14 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS FOR LOWER PARACHUTE CREEK
FOR SAMPLE DATE SHOWN

WG - LPC3 WH - LPC4

YR	MO	DY	WG12 DEPTH (FT)
84	7	30	6254.66
		31	6254.66
	8	1	6254.66
		2	6254.67
		3	6254.66
		4	6254.67
		5	6254.67
		6	6254.67
		7	6254.68
		8	6254.68
		9	6254.68
		10	6254.68
		11	6254.68
		12	6254.69
		13	6254.69
		14	6254.69
		15	6254.69
		16	6254.69
		17	6254.69
		18	6254.69
		19	6254.69
		20	6254.69
		21	6254.69
		22	6254.69
		23	6254.69
		24	6254.69
		25	6254.69
		26	6254.69
		27	6254.69
		28	6254.69
		29	6254.69
		30	6254.69
		31	6254.69
	9	1	6254.69
		2	6254.69
		3	6254.85
		4	6254.85
		5	6254.85
		6	6254.85
		7	6254.85
		8	6254.85
		9	6254.85
		10	6254.85
		11	6254.85

TABLE 1.2.1.4-14 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS FOR LOWER PARACHUTE CREEK
FOR SAMPLE DATE SHOWN

WG - LPC3 WH - LPC4

YR	MO	DY	WG12 DEPTH (FT)
84	9	12	6254.85
		13	6254.85
		14	6254.85
		15	6254.85
		16	6254.85
		17	6254.85
		18	6254.85
		19	6254.85
		20	6254.85
		21	6254.84
		22	6254.84
		23	6254.84
		24	6254.84
		25	6254.84
		26	6254.84
		27	6254.84
		28	6254.81
		29	6254.80
		30	6254.80
	10	1	6254.80
		2	6254.80
		3	6254.80
		4	6254.80
		5	6254.80
		6	6254.79
		7	6254.79
		8	6254.78
		9	6254.78
		10	6254.78
		11	6254.78
		12	6254.78
		13	6254.78
		14	6254.77
		15	6254.77
		16	6254.77
		17	6254.77
		18	6254.77
		19	6254.77
		20	6254.77
		21	6254.77
		22	6254.77
		23	6254.76
		24	6254.75
		25	6254.75

TABLE 1.2.1.4-14 (cont'd)

CB-TRACT
STEVENS RECORDER WATER LEVELS FOR LOWER PARACHUTE CREEK
FOR SAMPLE DATE SHOWN

WG - LPC3 WH - LPC4

YR	MO	DY	WG12 DEPTH (FT)
84	10	26	6254.75
		27	6254.73
		28	6254.72
		29	6254.72
		30	6254.70
		31	6254.70
	11	1	6254.68
		2	6254.68
		3	6254.67
		4	6254.66
		5	6254.65
		6	6254.65
		7	6254.65
		8	6254.65
		9	6254.63
		10	6254.62
		11	6254.61
		12	6254.59
		13	6254.59
		14	6254.57
		15	6254.56
		16	6254.55
		17	6254.55
		18	6254.53
		19	6254.51
		20	6254.50
		21	6254.49
		22	6254.49
		23	6254.50
		24	6254.50
		25	6254.49
		26	6254.48
		27	6254.48
		28	6254.48

TABLE 1.2.1.4-15

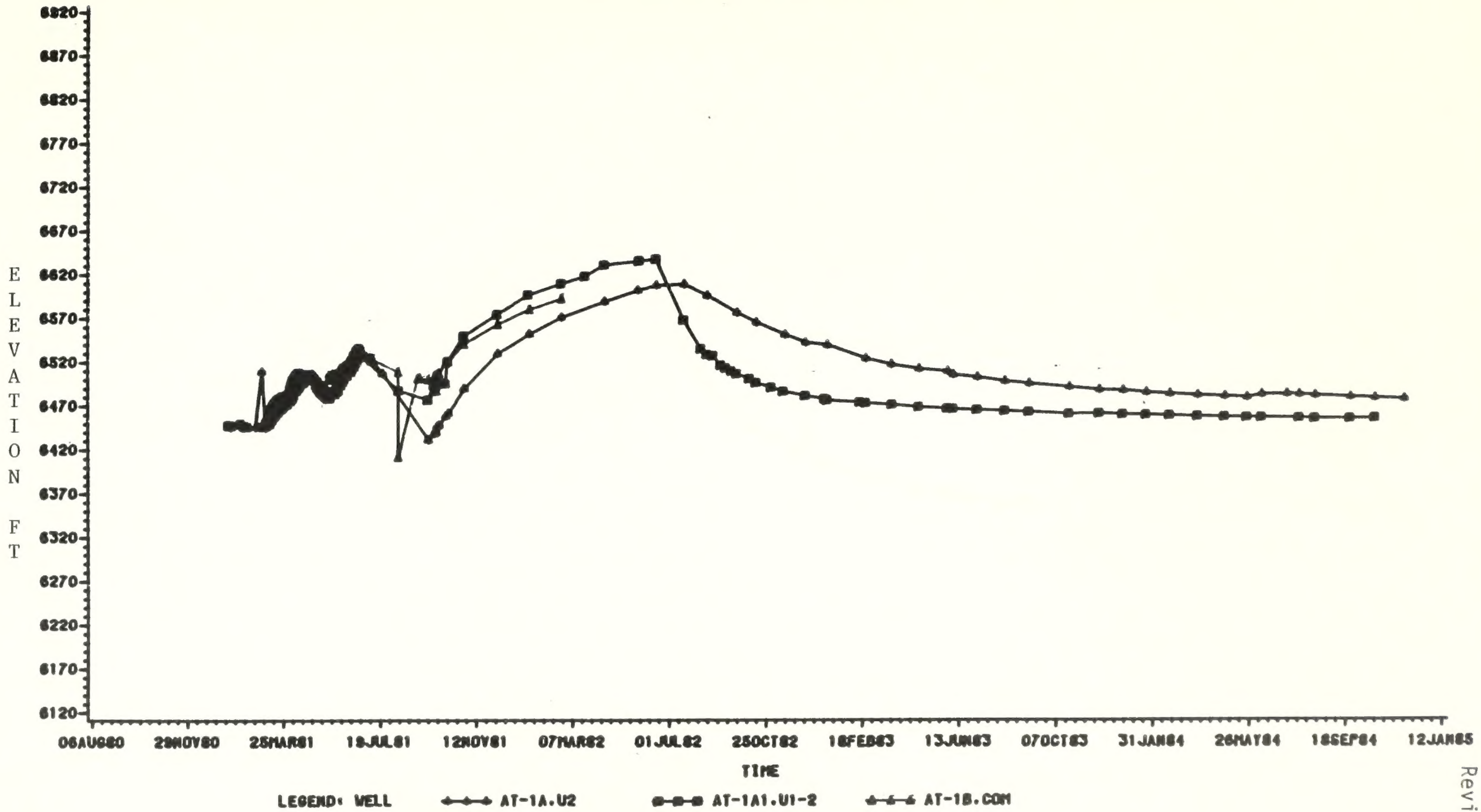
LIST OF BEDROCK WELL LEVELS TIME SERIES PLOTS

TABLE 1.2.1.4-15 (Contd)

LIST OF BEDROCK WELL LEVELS TIME SERIES PLOTS

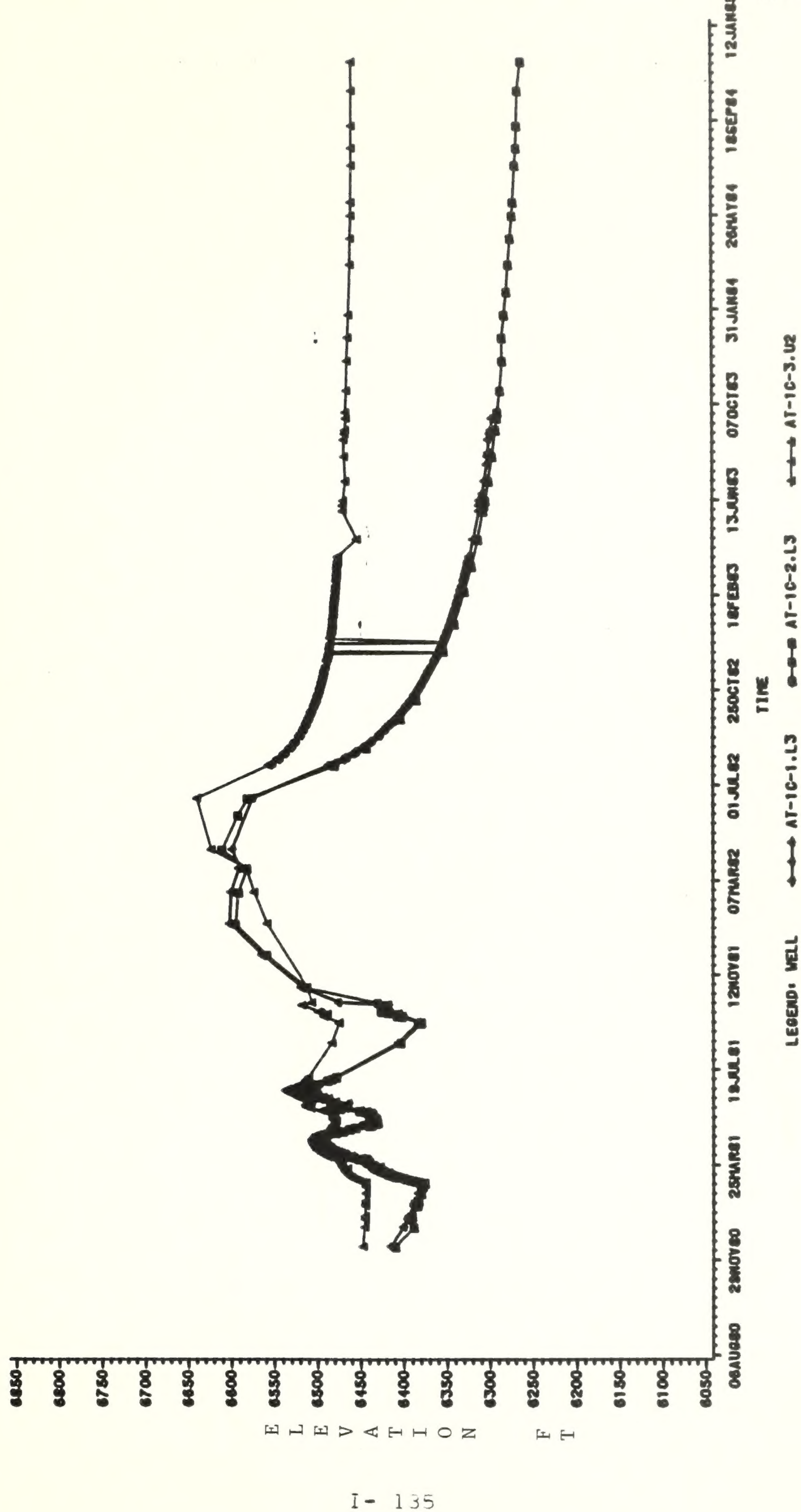
Well	Computer Code	Page No.
SG-17-1	WE17	I-148
SG-17-2	WG17	I-148
SG-17-3	WD17	I-148
SG-17-4	WC17	I-148
SG-18A-1	WG18	I-149
SG-18A-2	WE18	I-149
SG-18A-3	WD18	I-149
SG-20-2	WE20	I-150
SG-20-3	WD20	I-150
SG-21-1	WH21	I-151
SG-21-2	WG21	I-151
SG-21-3	WE21	I-151
SG-21-4	WD21	I-151
14X-7-1	WD14	I-152
14X-7-2	WD15	I-152
21X-12 1	WG23	I-153
21X-12-2	WC23	I-154
22X-1-2	WD22	I-155
22X-1-3	WC22	I-156
32X12	WX32	I-157
43X-2-1	WG43	I-158
43X-2-2	WE43	I-159
B-102-3-1	WC03	I-160
B-102-3-2	WB03	I-161

CB WELL LEVELS DATA



Revised 3/11/85

CB WELL LEVELS DATA



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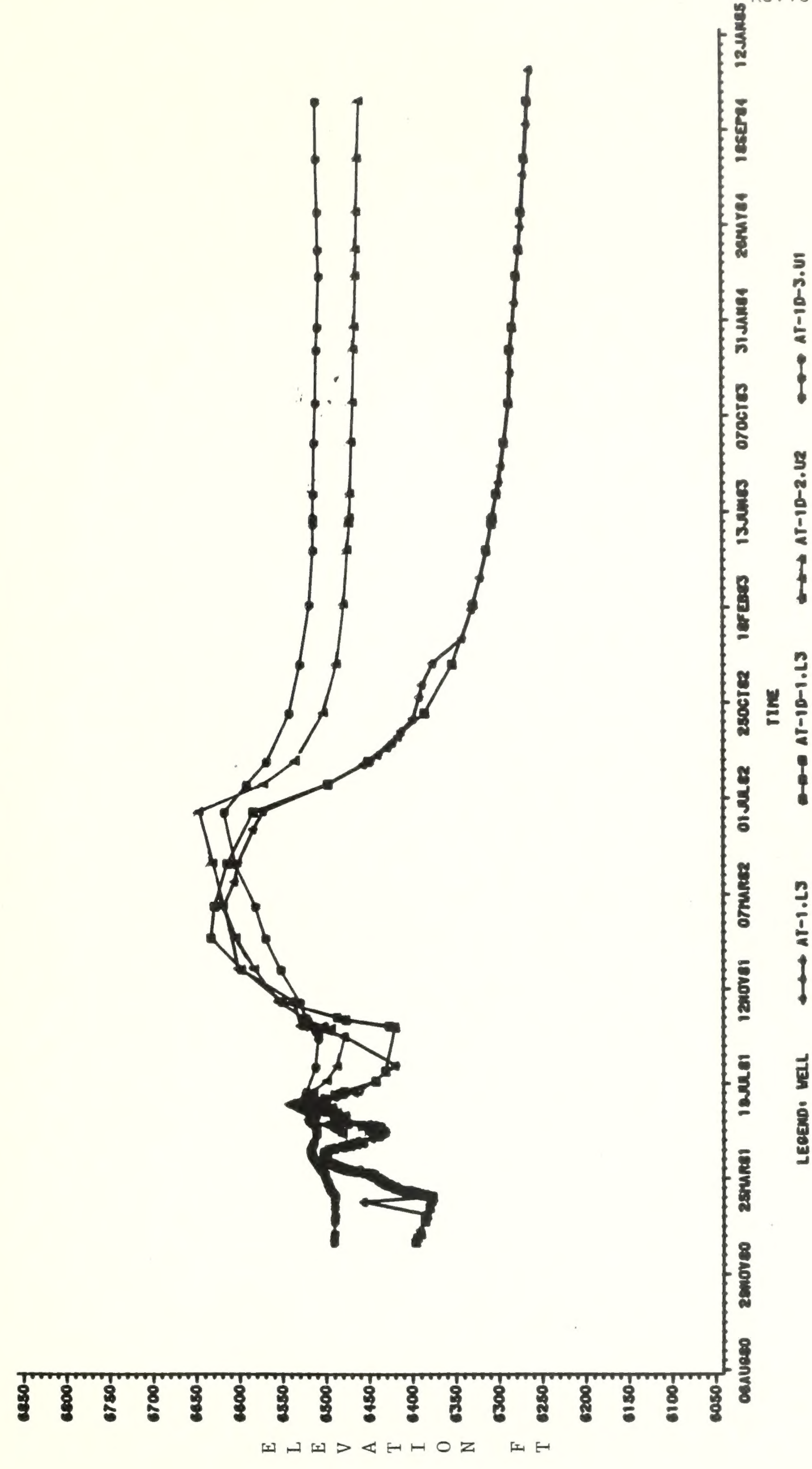

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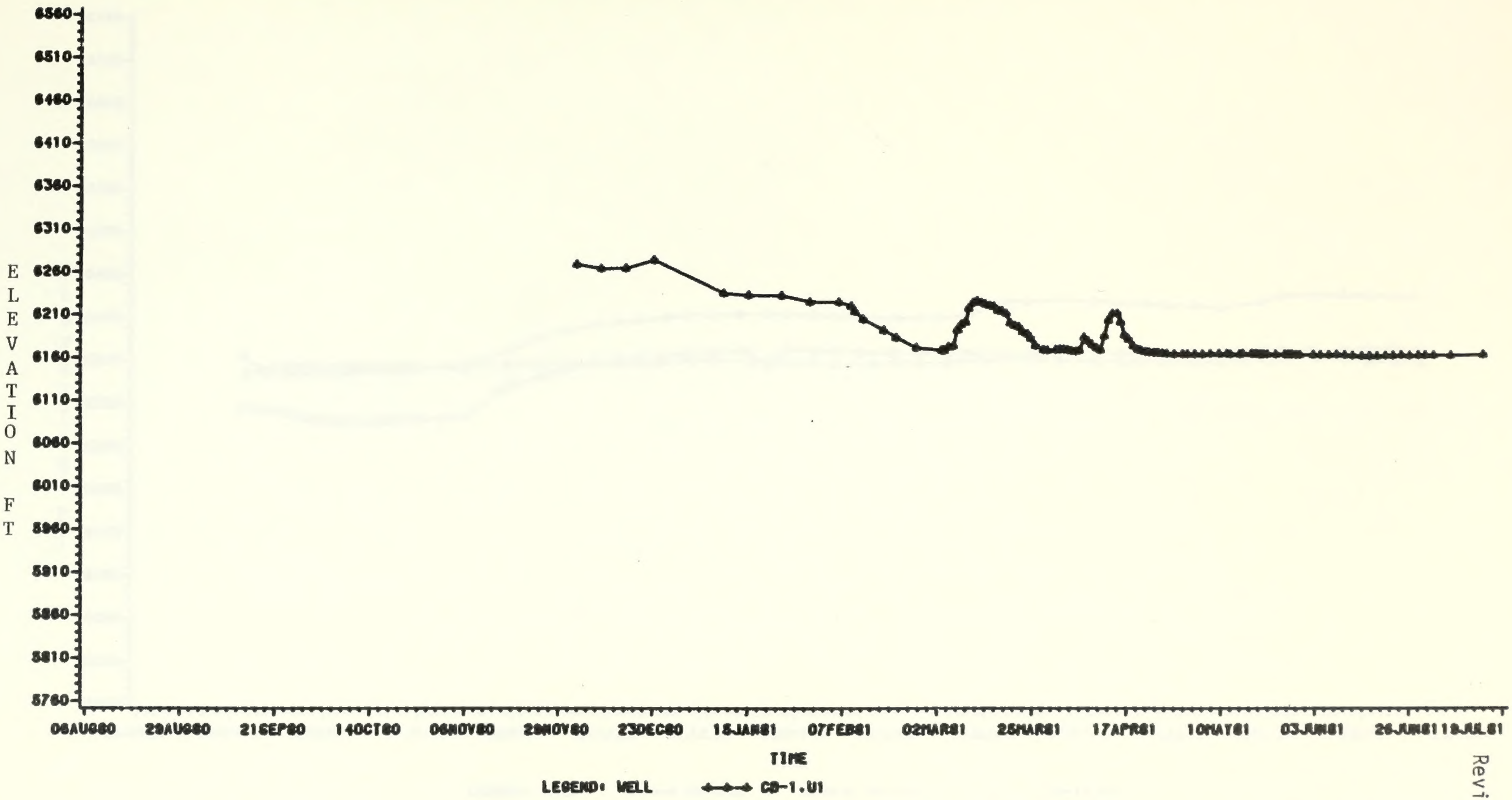
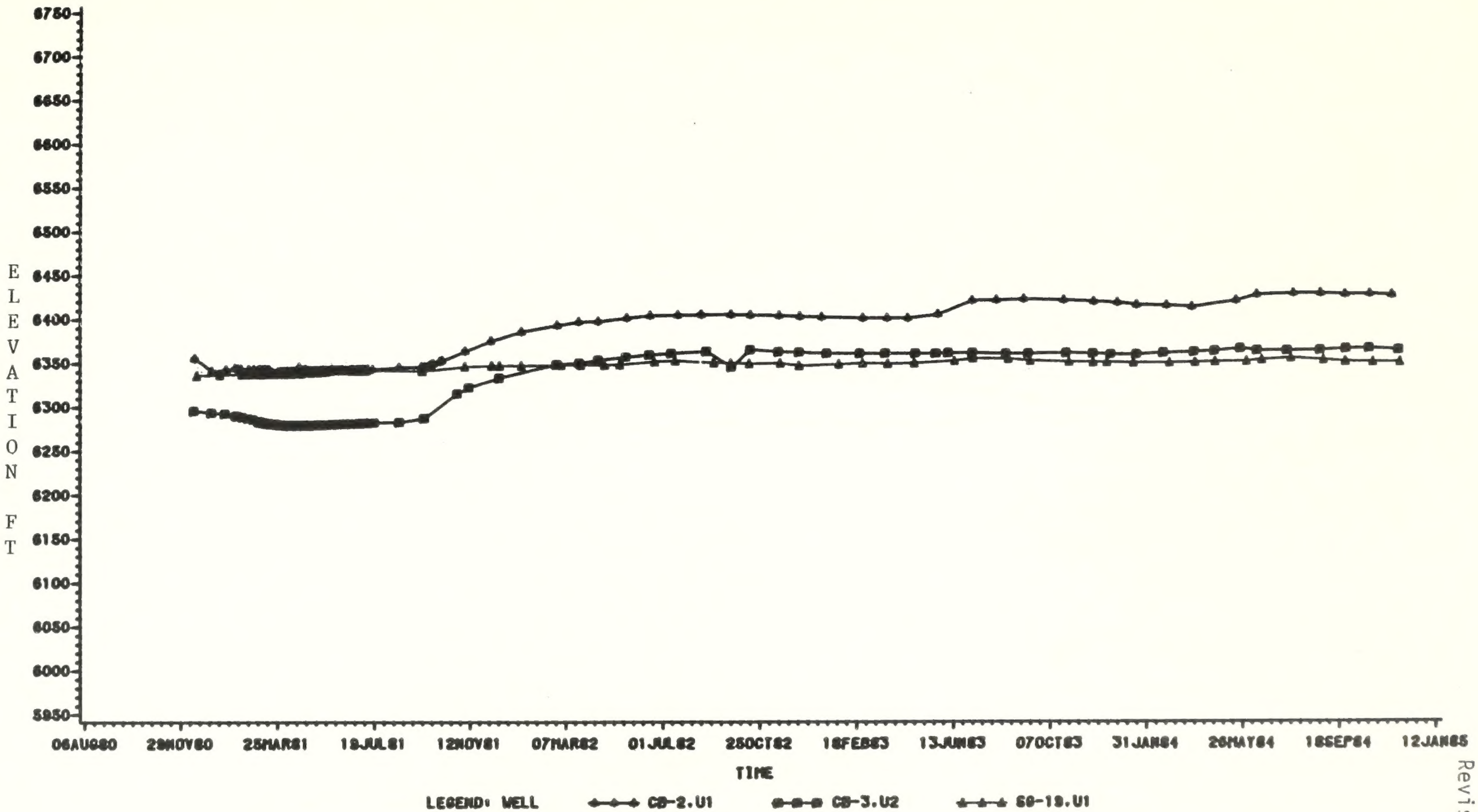


Revised 3/11/85

CB WELL LEVELS DATA



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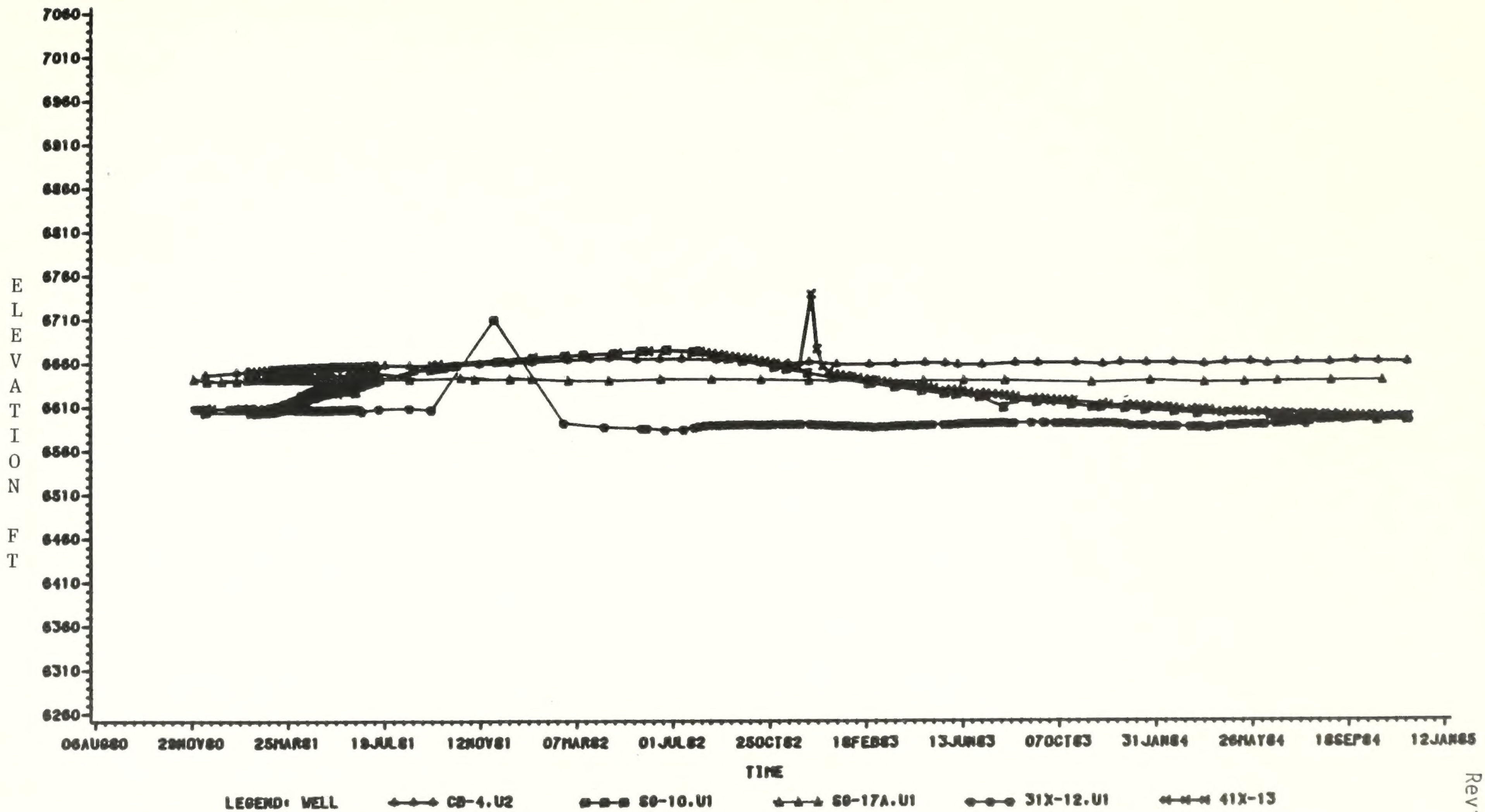

TIME SERIES OF SEEPAGE MONITORING WELL (WW32) SAMPLES

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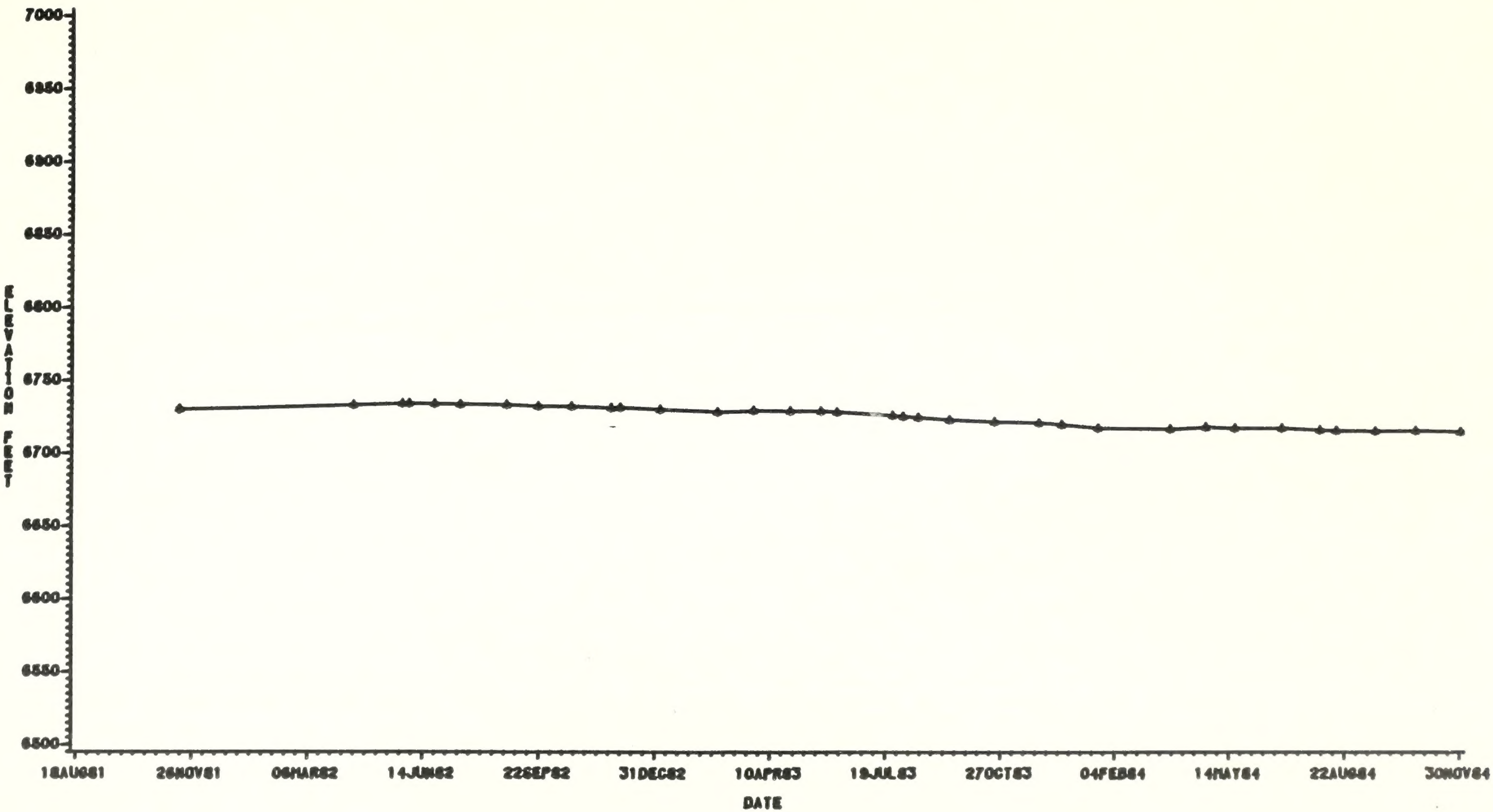

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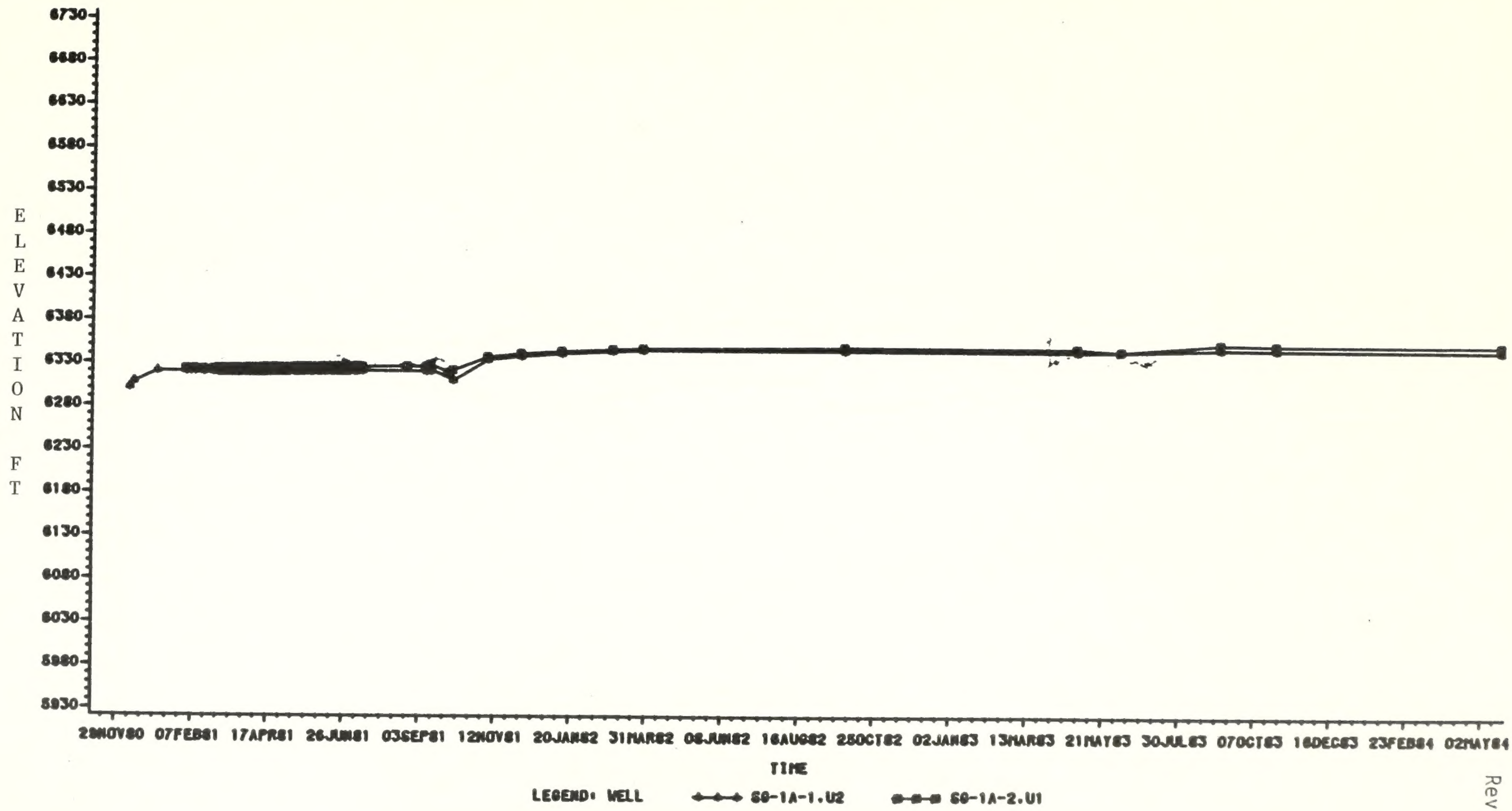
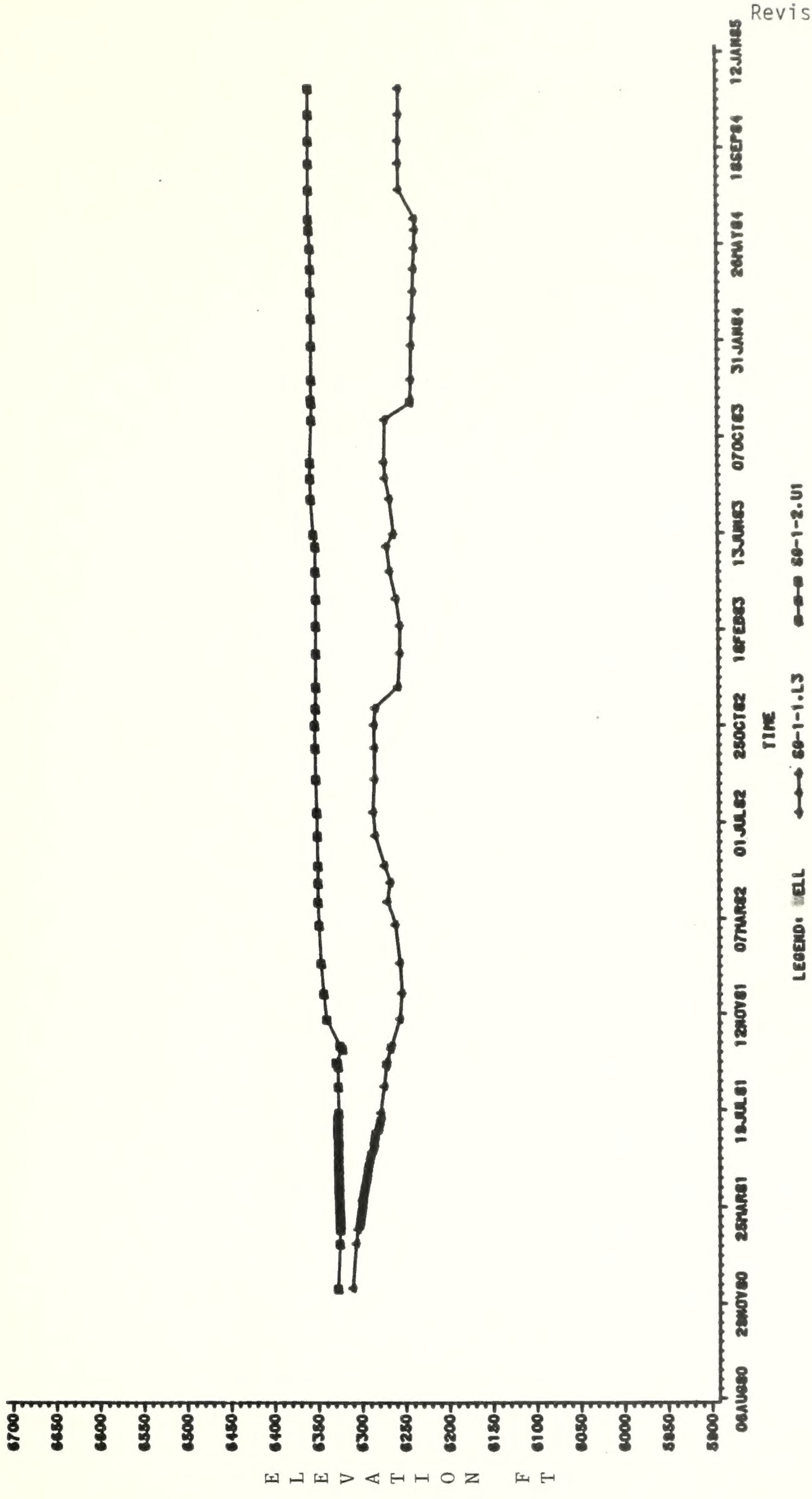


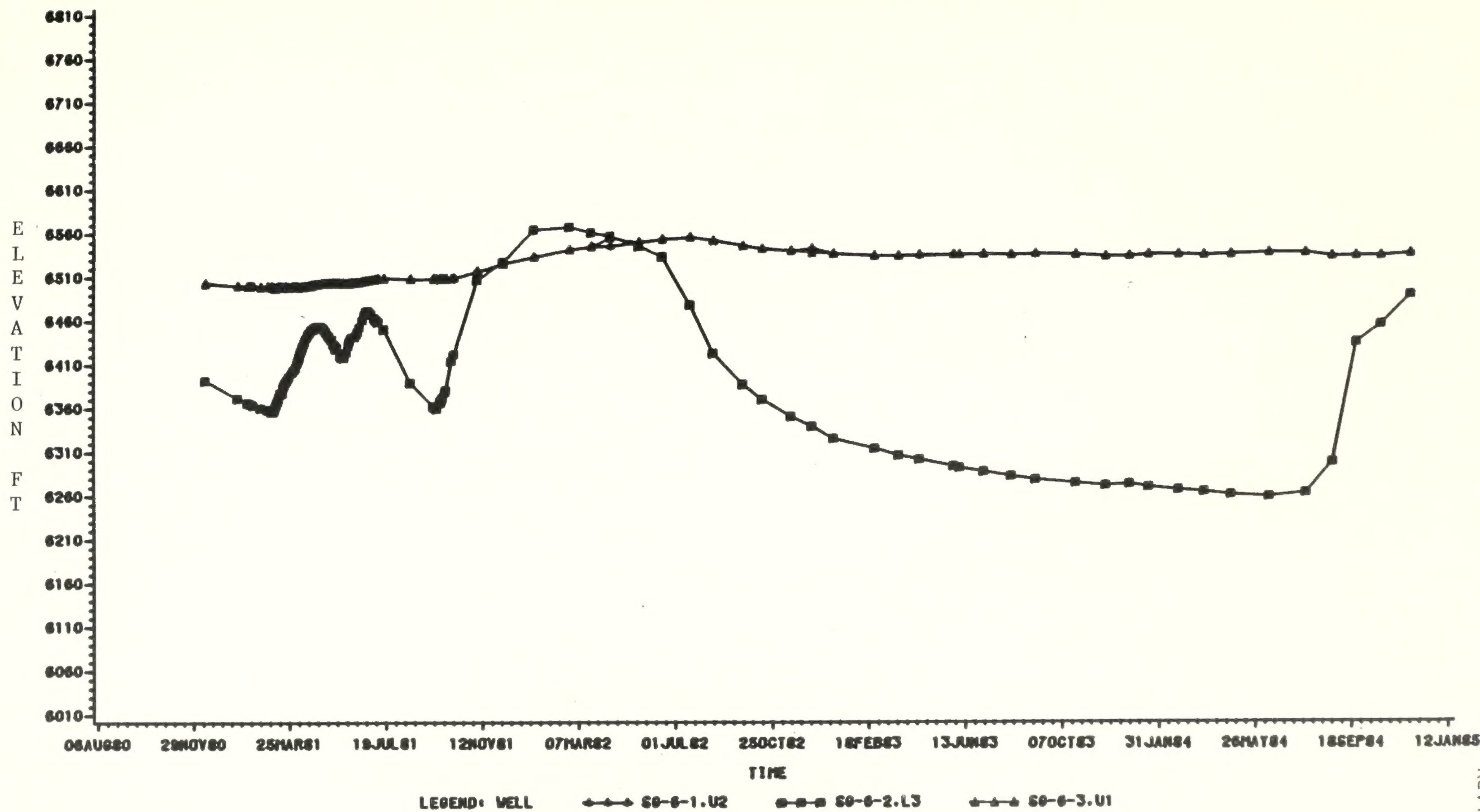
Revised 3/11/85

CB WELL LEVELS DATA

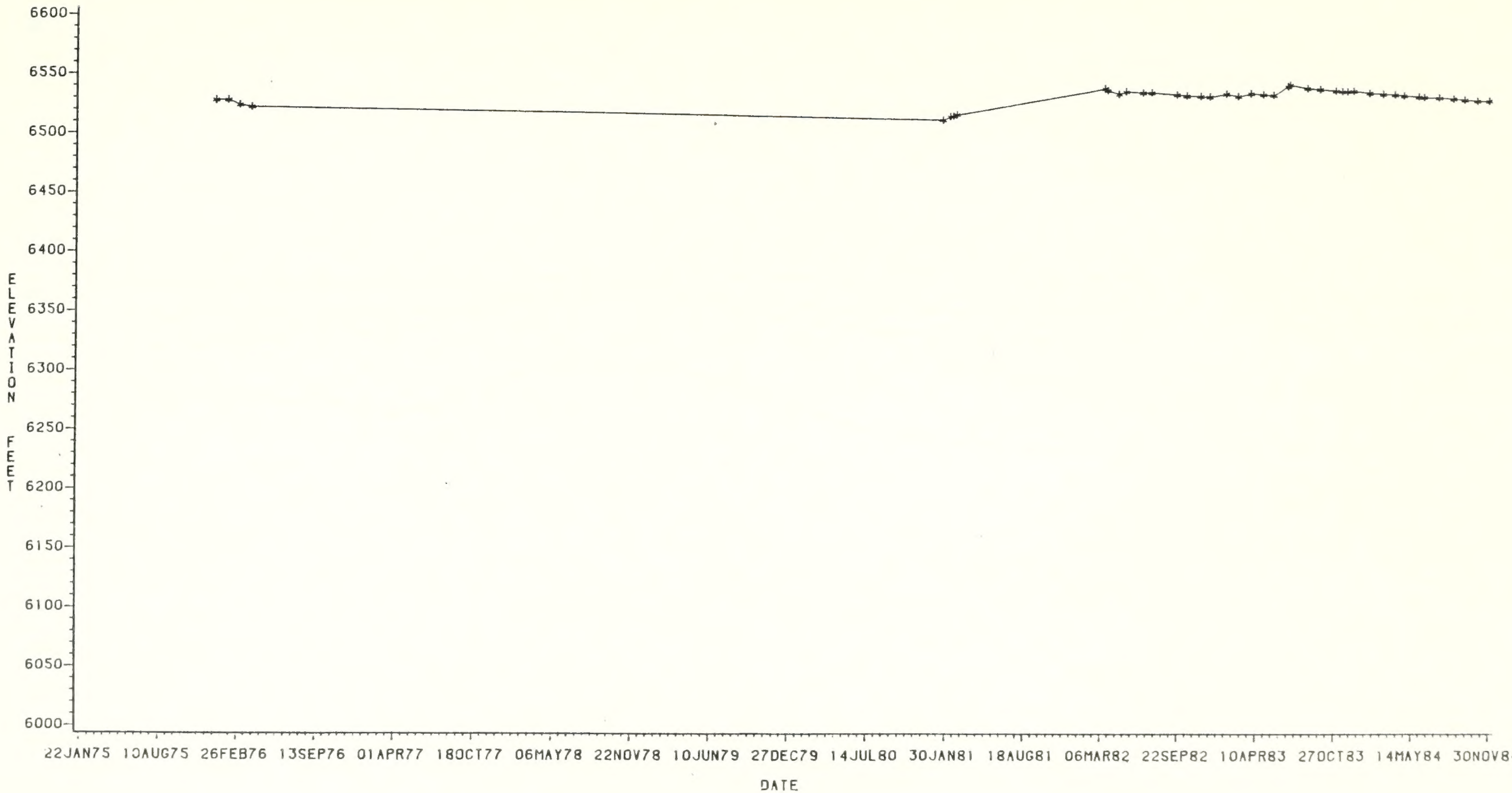


Revised 3/11/85

CB WELL LEVELS DATA



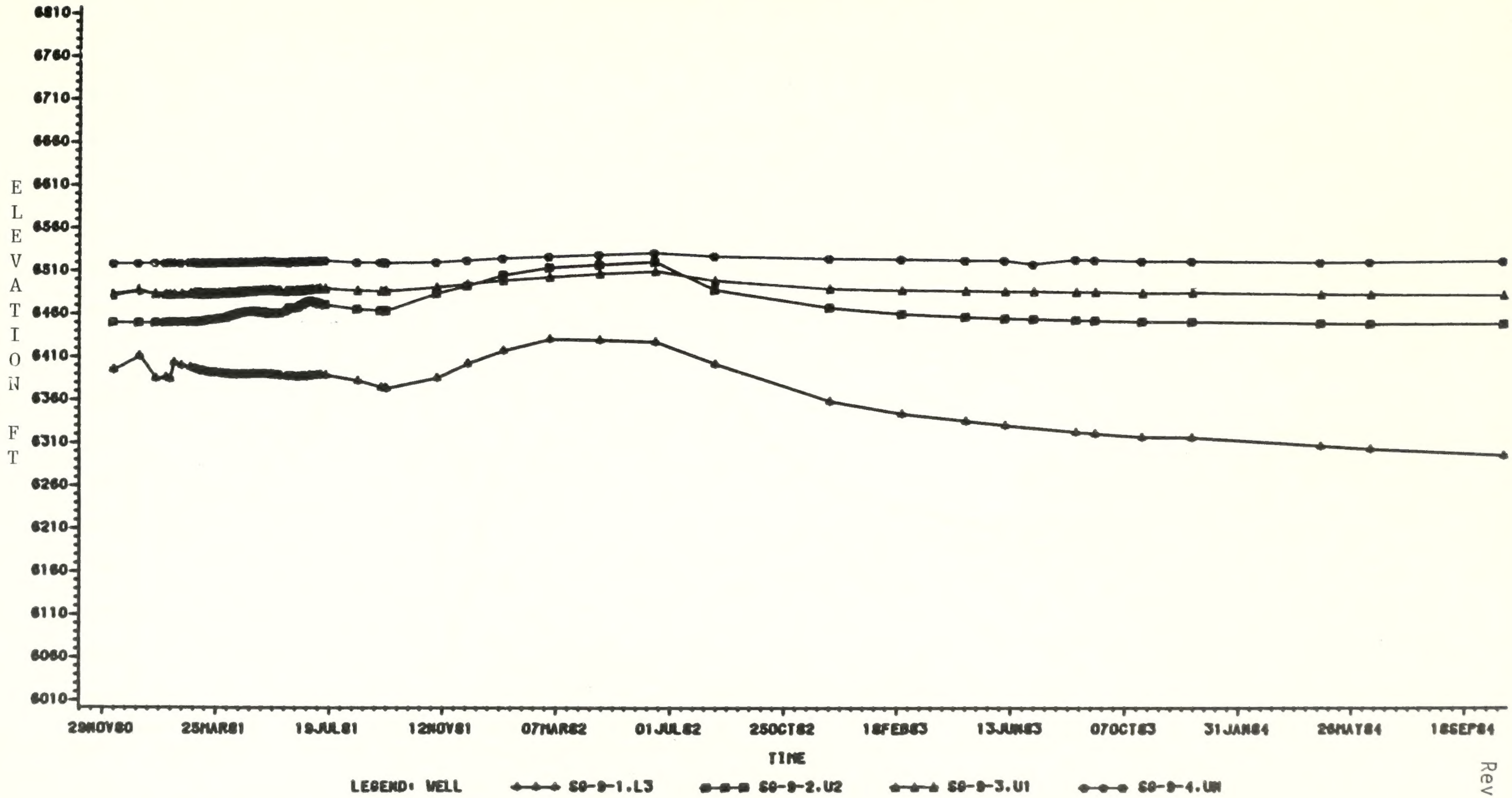
C-B WELL LEVELS



WY81 (SG-8R)

Revised 3/11/85

CB WELL LEVELS DATA



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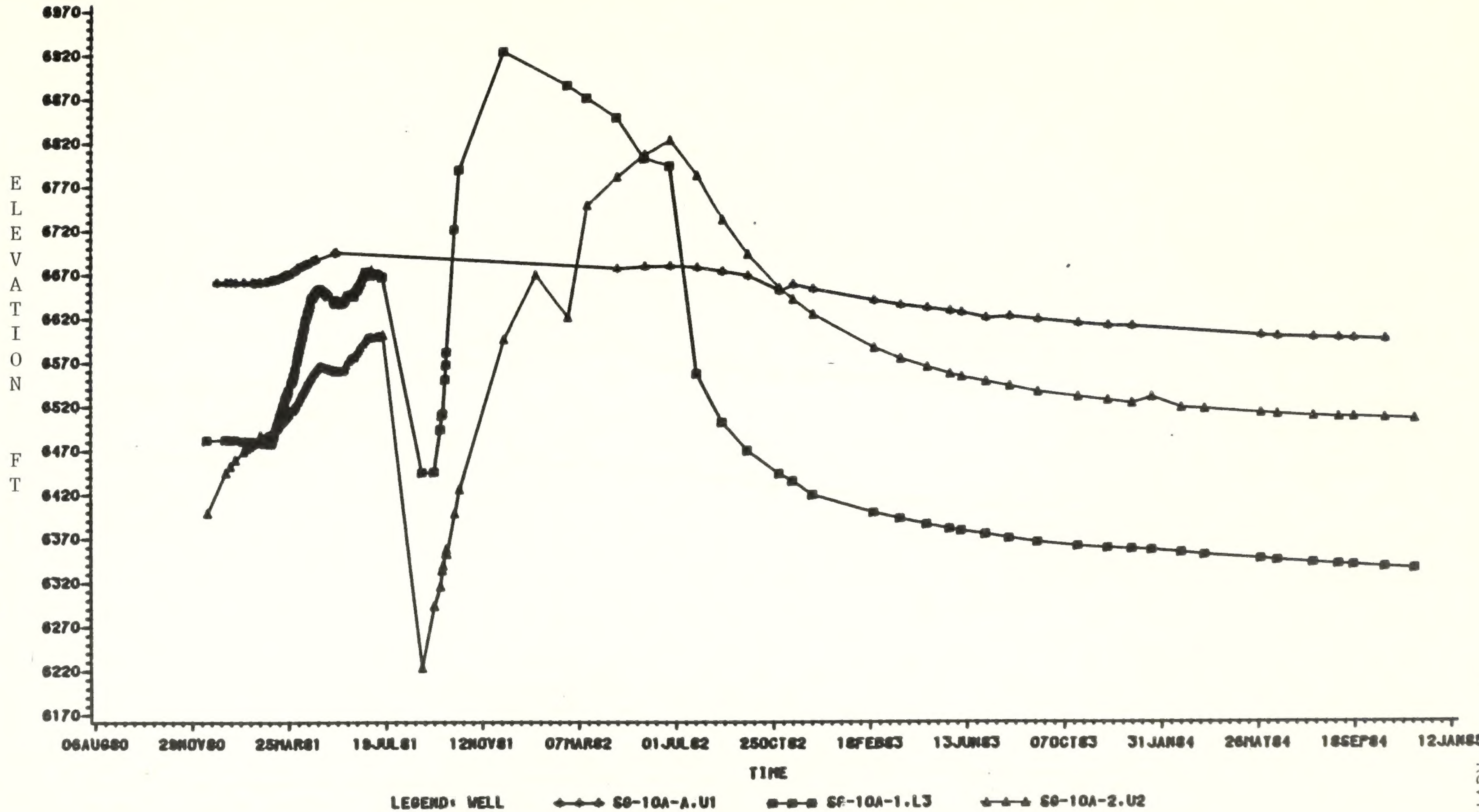
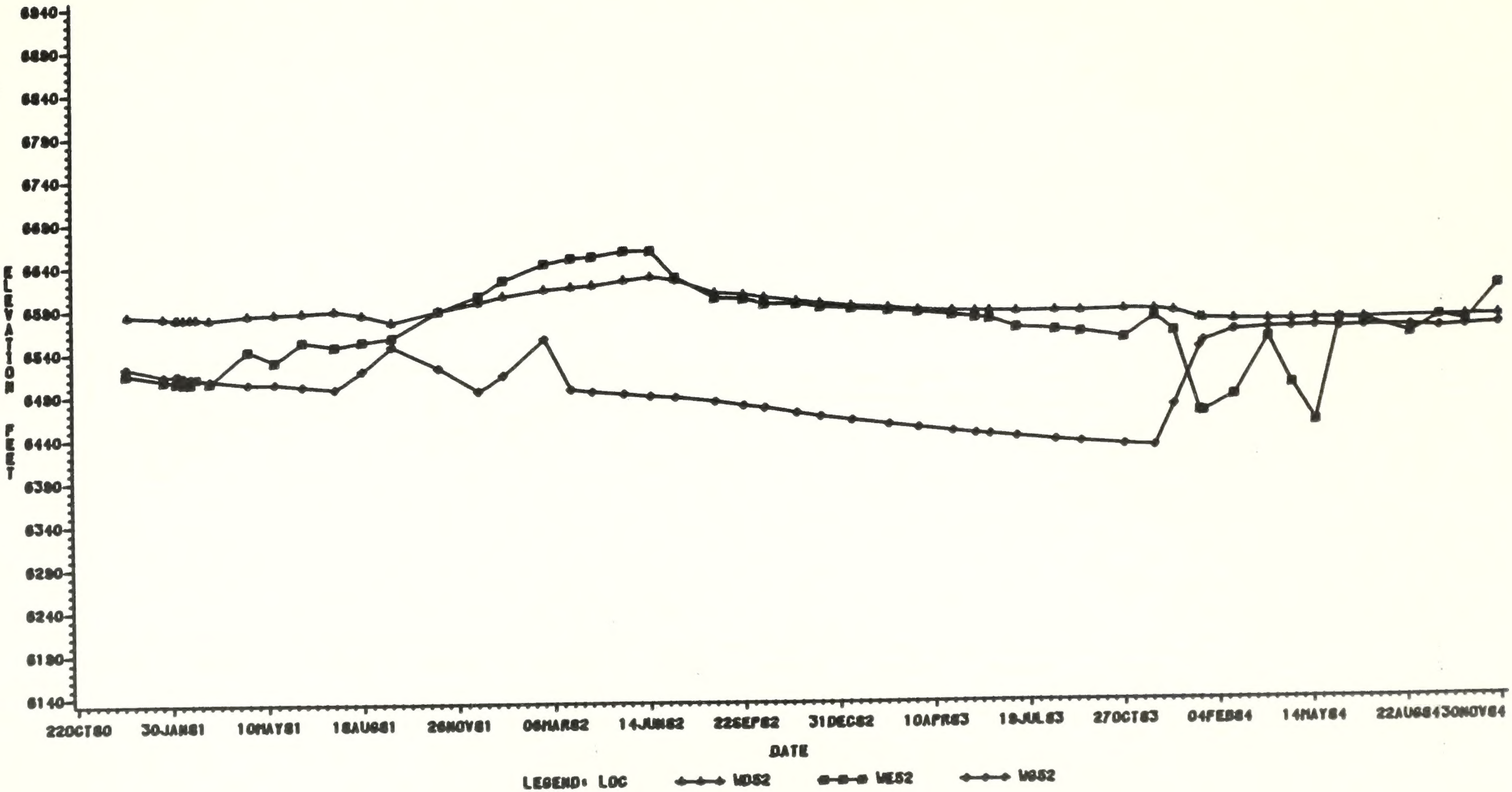
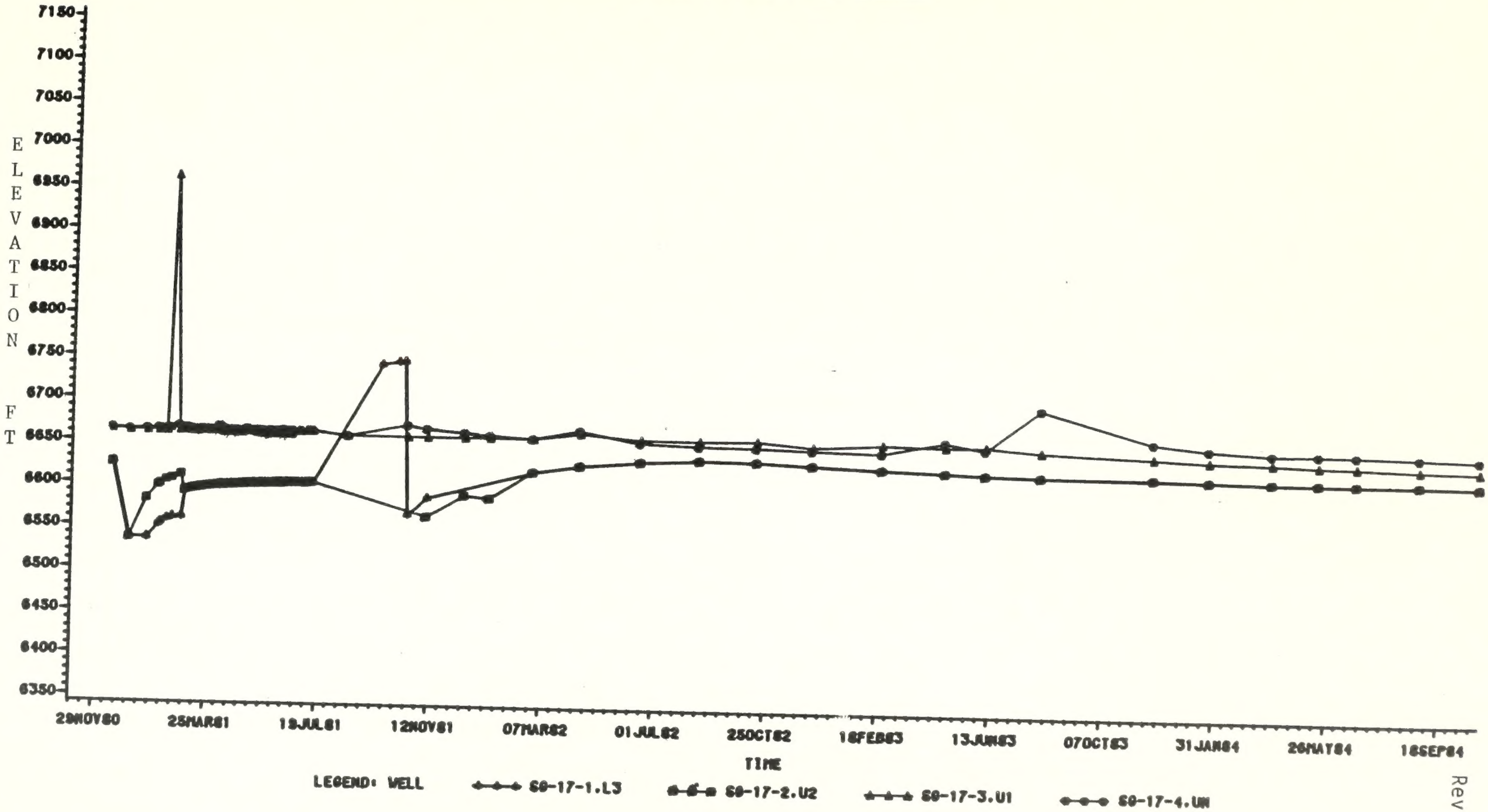


C–B WELL LEVELS



Revised 3/11/85

CB WELL LEVELS DATA



Revised 3/11/85

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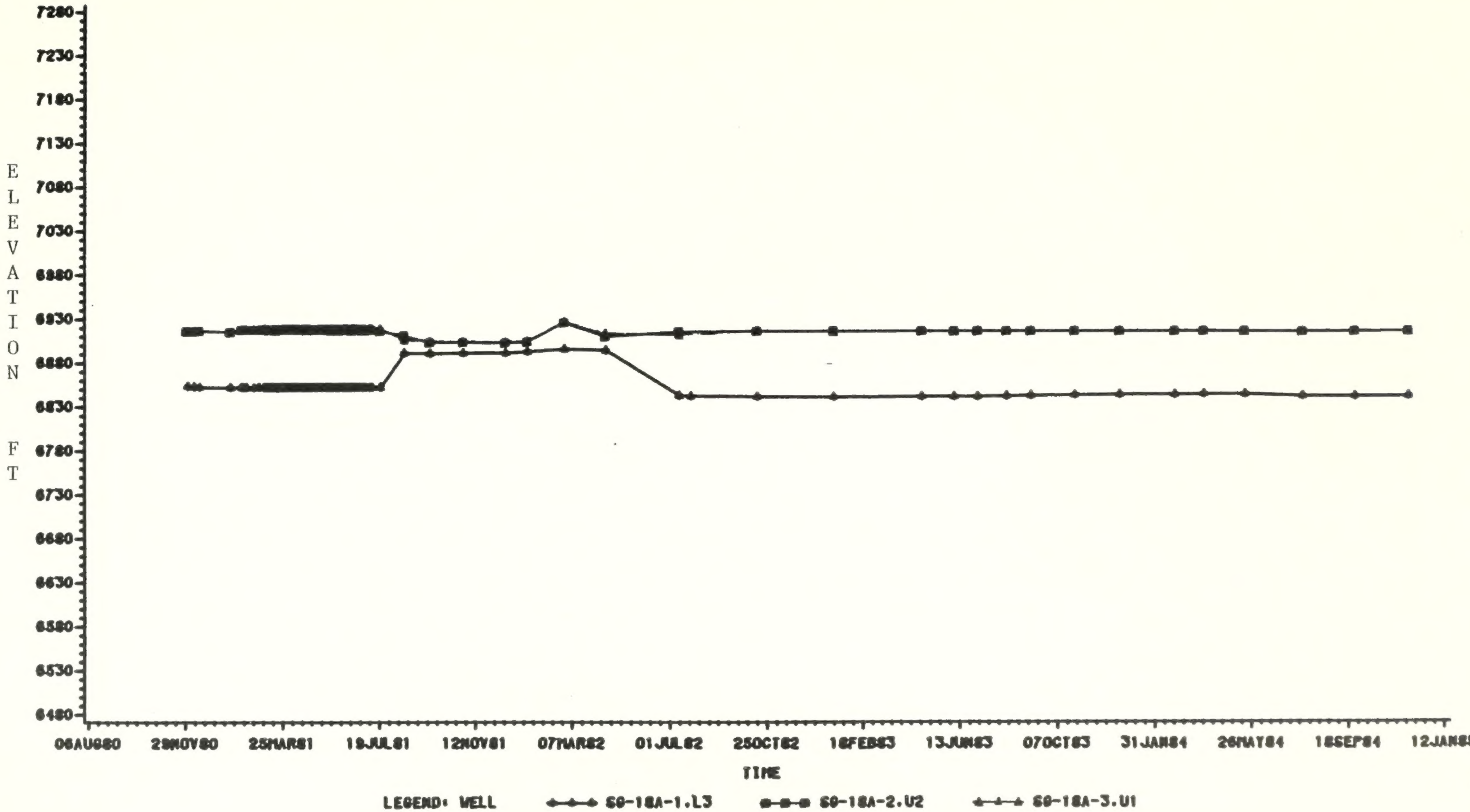

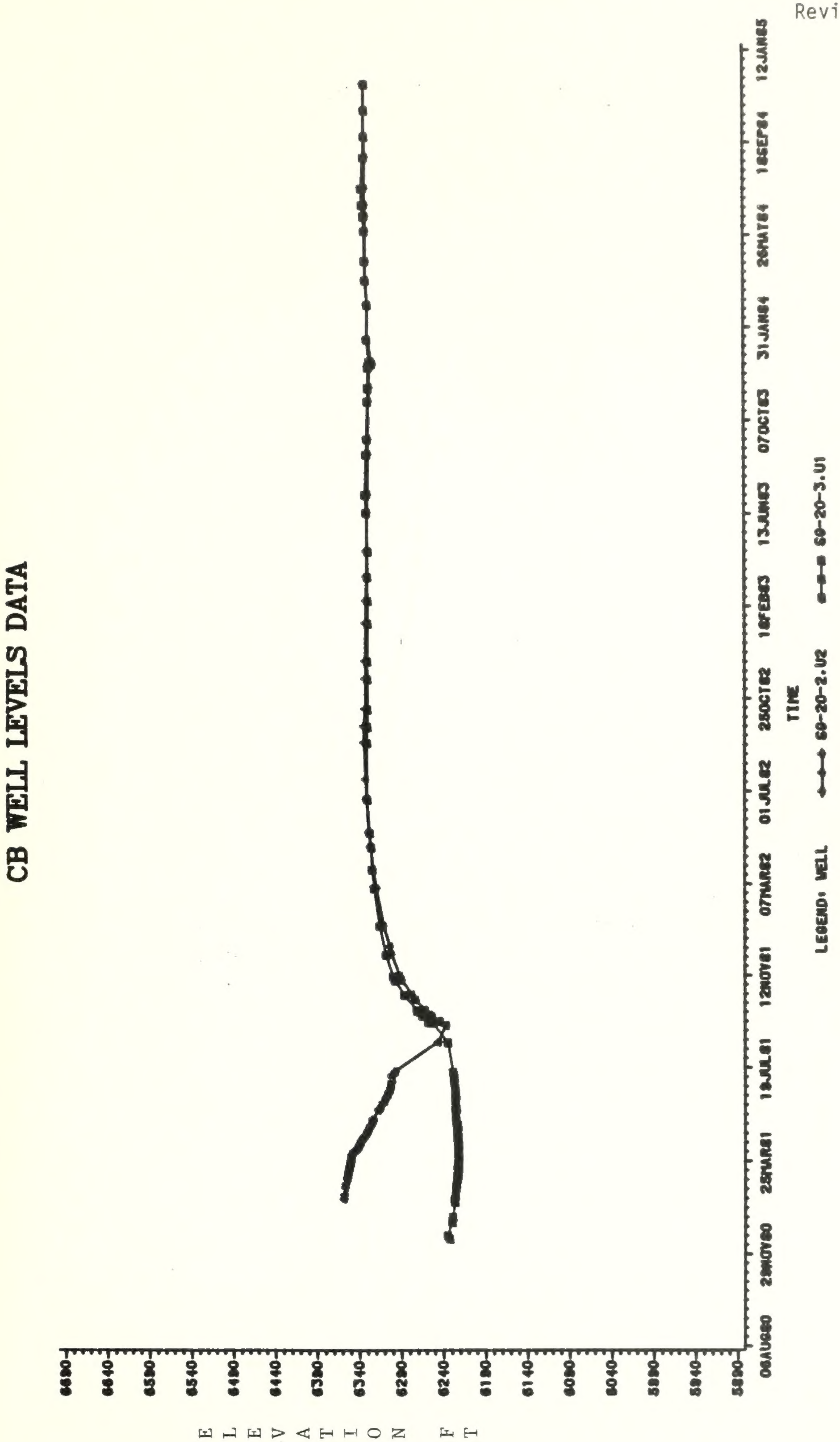
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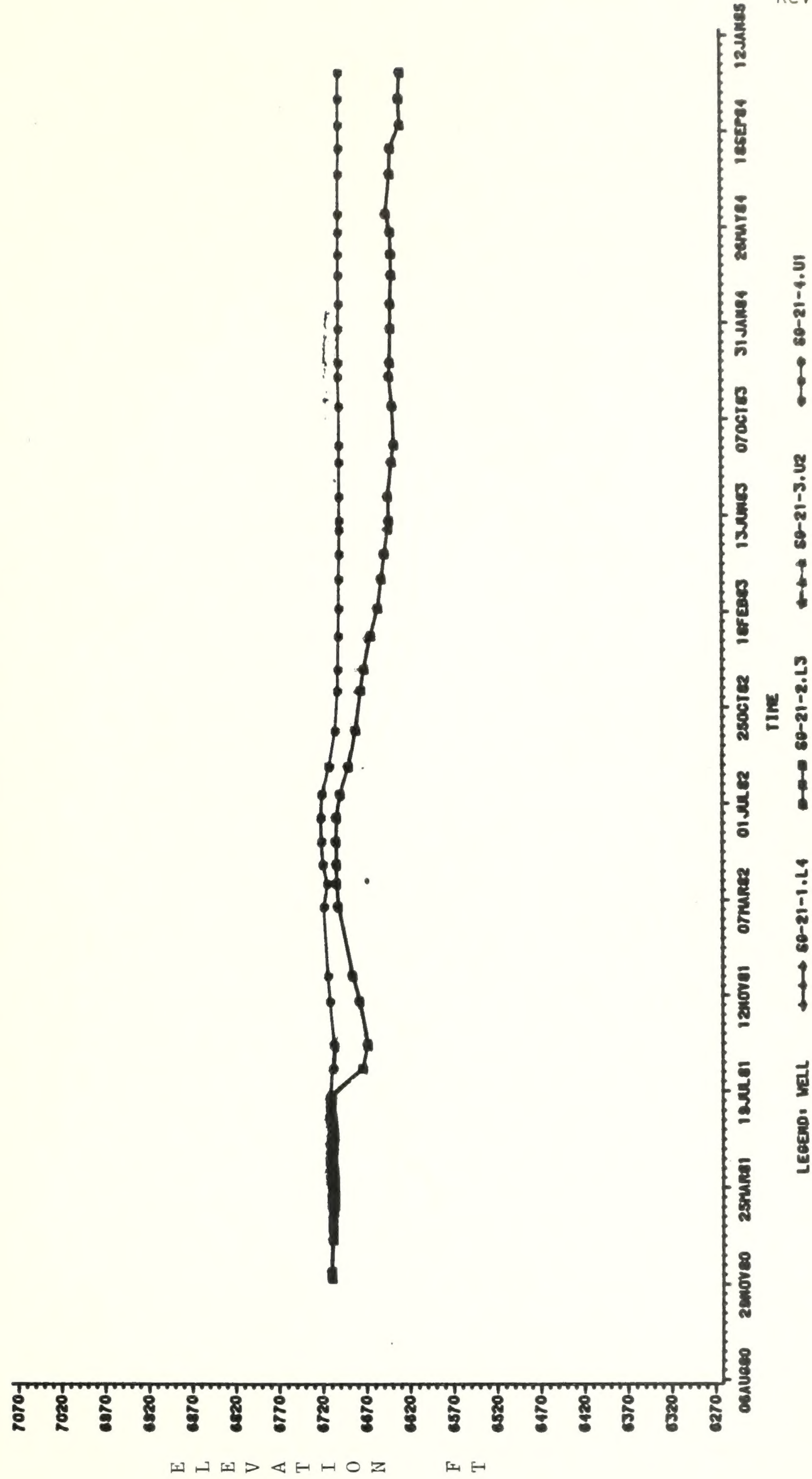
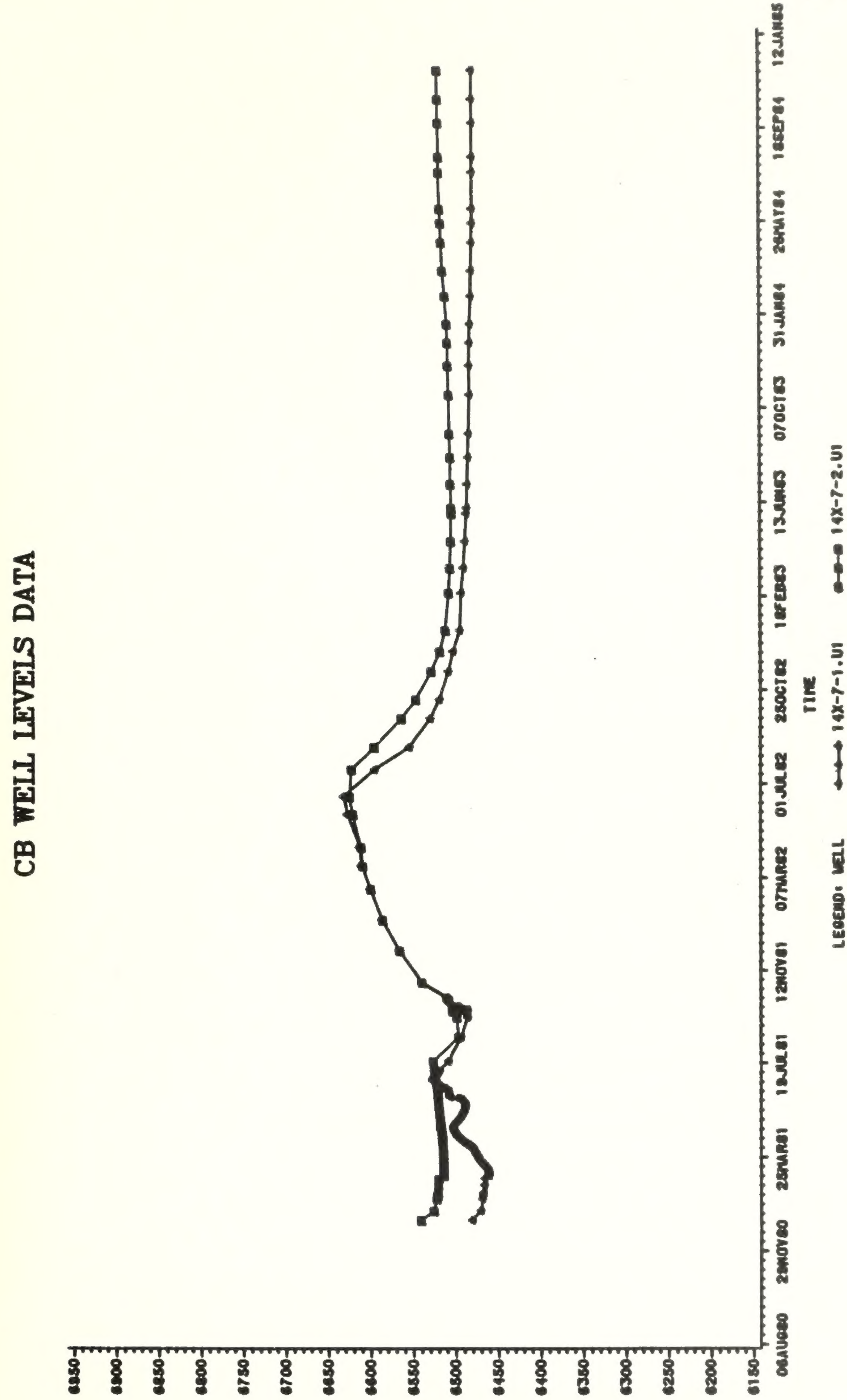
6490
6540
6590
6640
6690
06AUG80
29NOV80
25MAR81
19JUL81
12NOV81
07MAR82
01JUL82
25OCT82
18FEB83
13JUN83
07OCT83
31JAN84
26MAY84
18SEP84
12JAN85
TIME
LEGEND: WELL
S9-20-2.U2
S9-20-3.U1

CB WELL LEVELS DATA

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6700
6650
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6500
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6150
ELEVATION FT
06AUG80
29NOV80
25MAR81
19JUL81
12NOV81
07MAR82
01JUL82
25OCT82
18FEB83
13JUN83
07OCT83
31JAN84
26MAY84
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TIME
LEGEND: WELL
14X-7-1.U1
14X-7-2.U1

C–B WELL LEVELS

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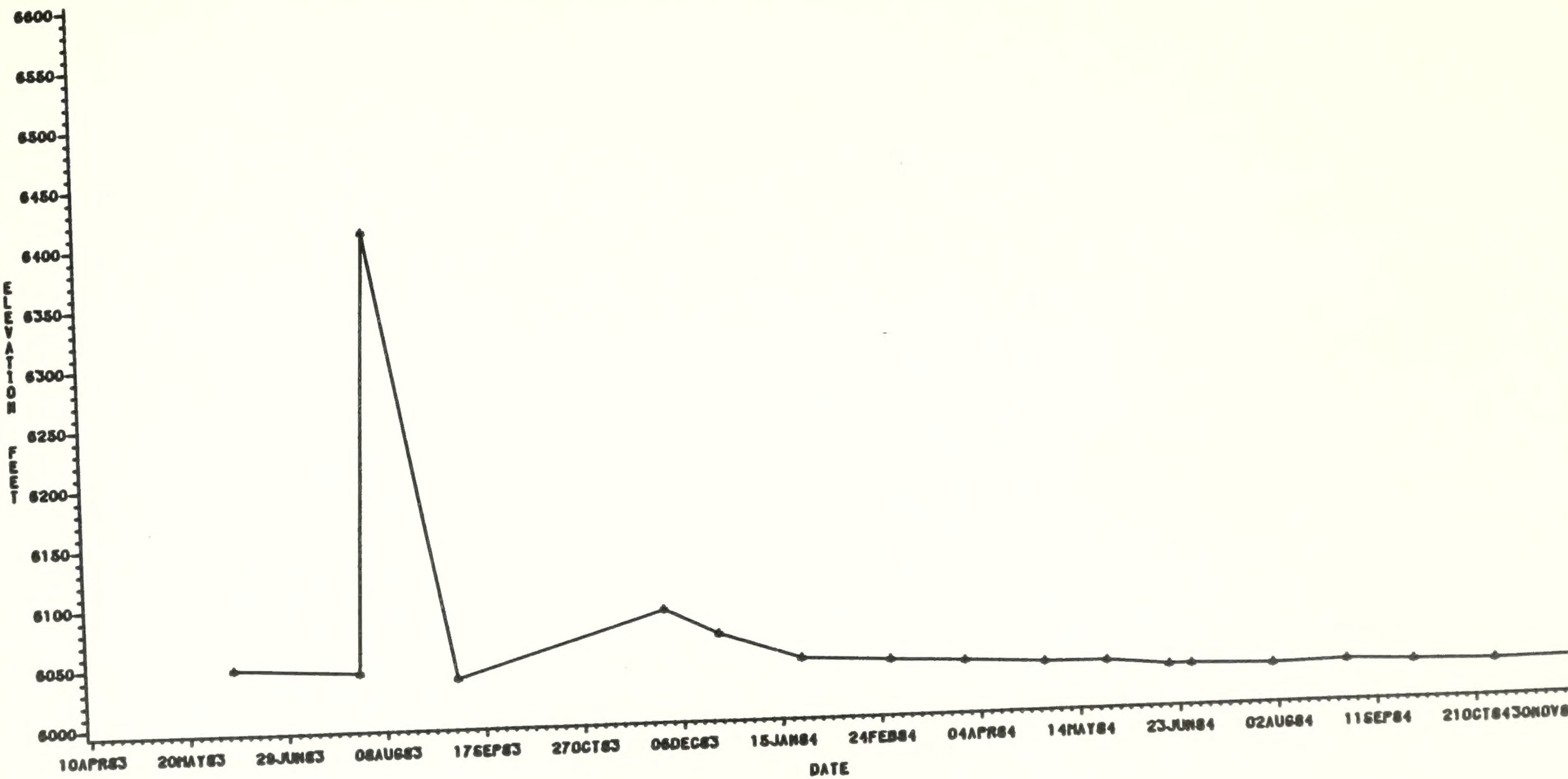
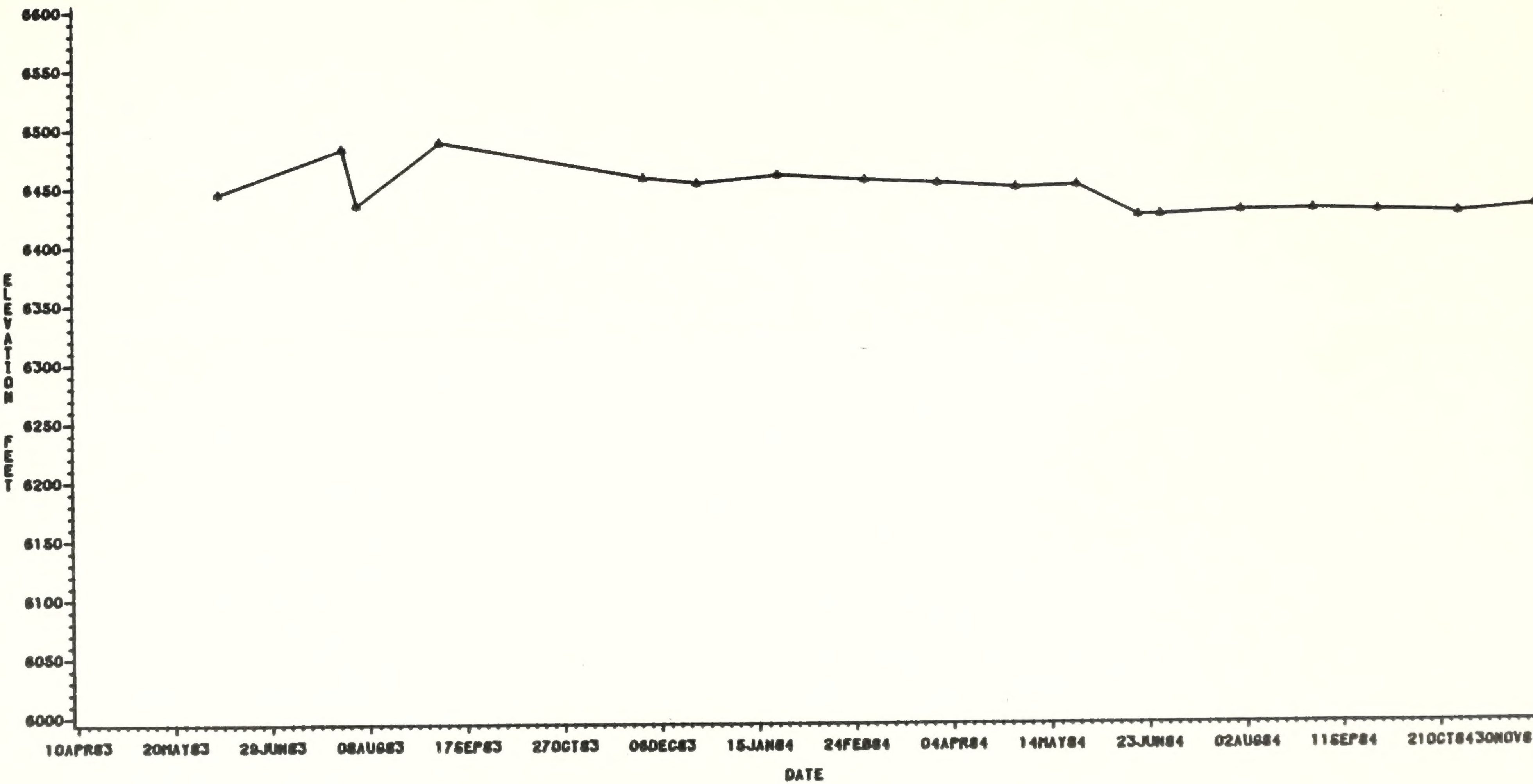


C–B WELL LEVELS

LOC=WC23



C–B WELL LEVELS

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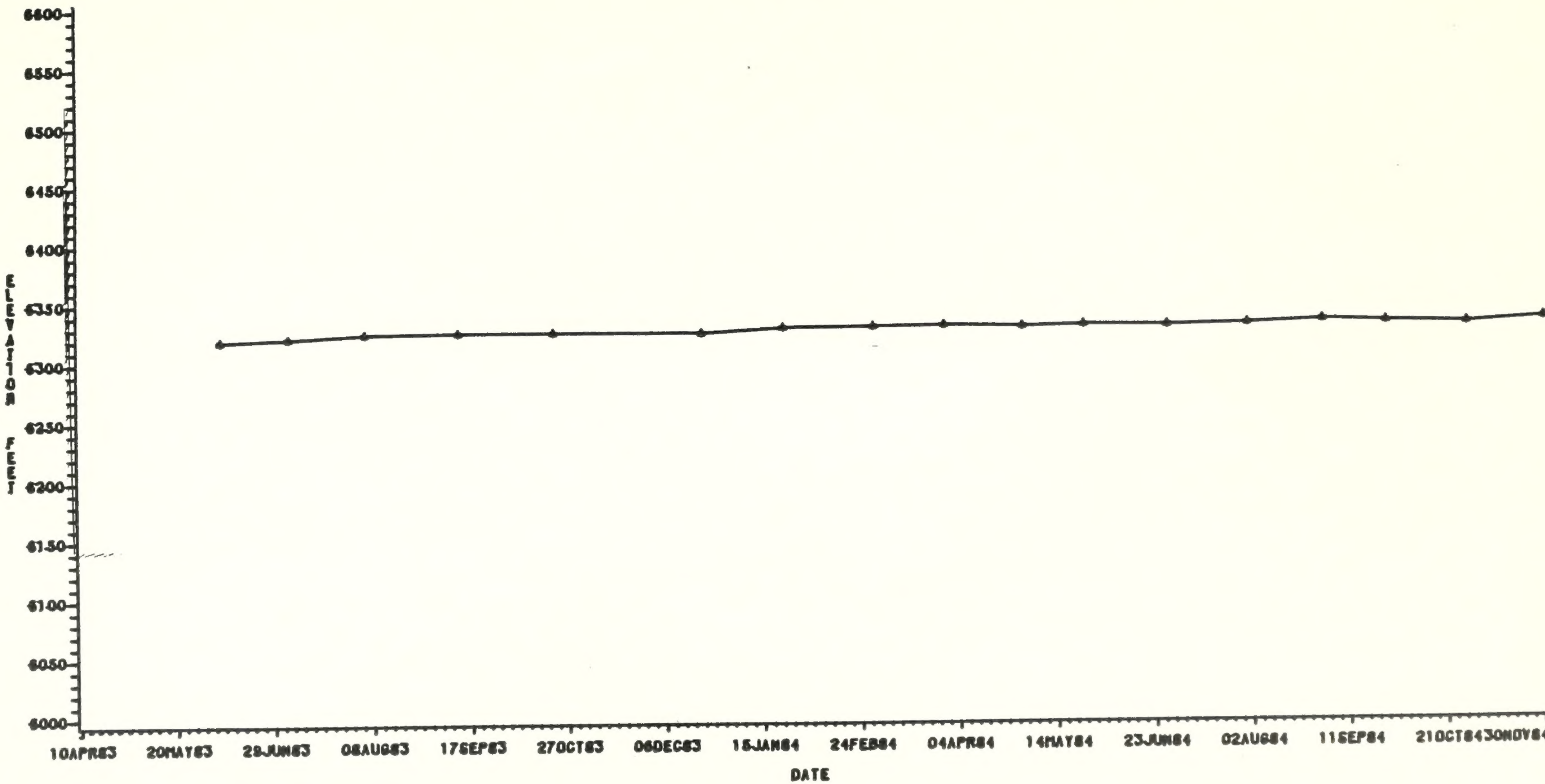

C–B WELL LEVELS

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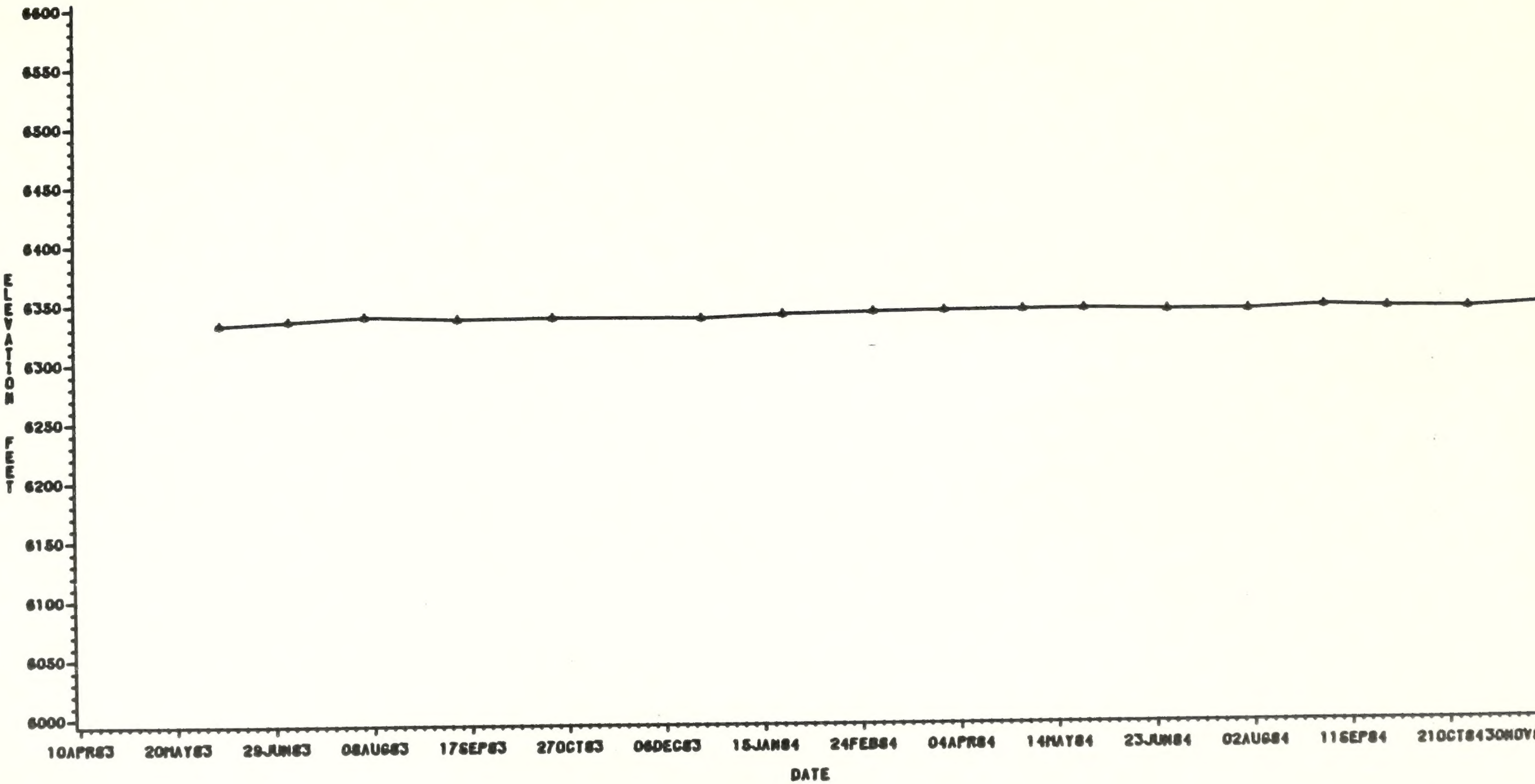
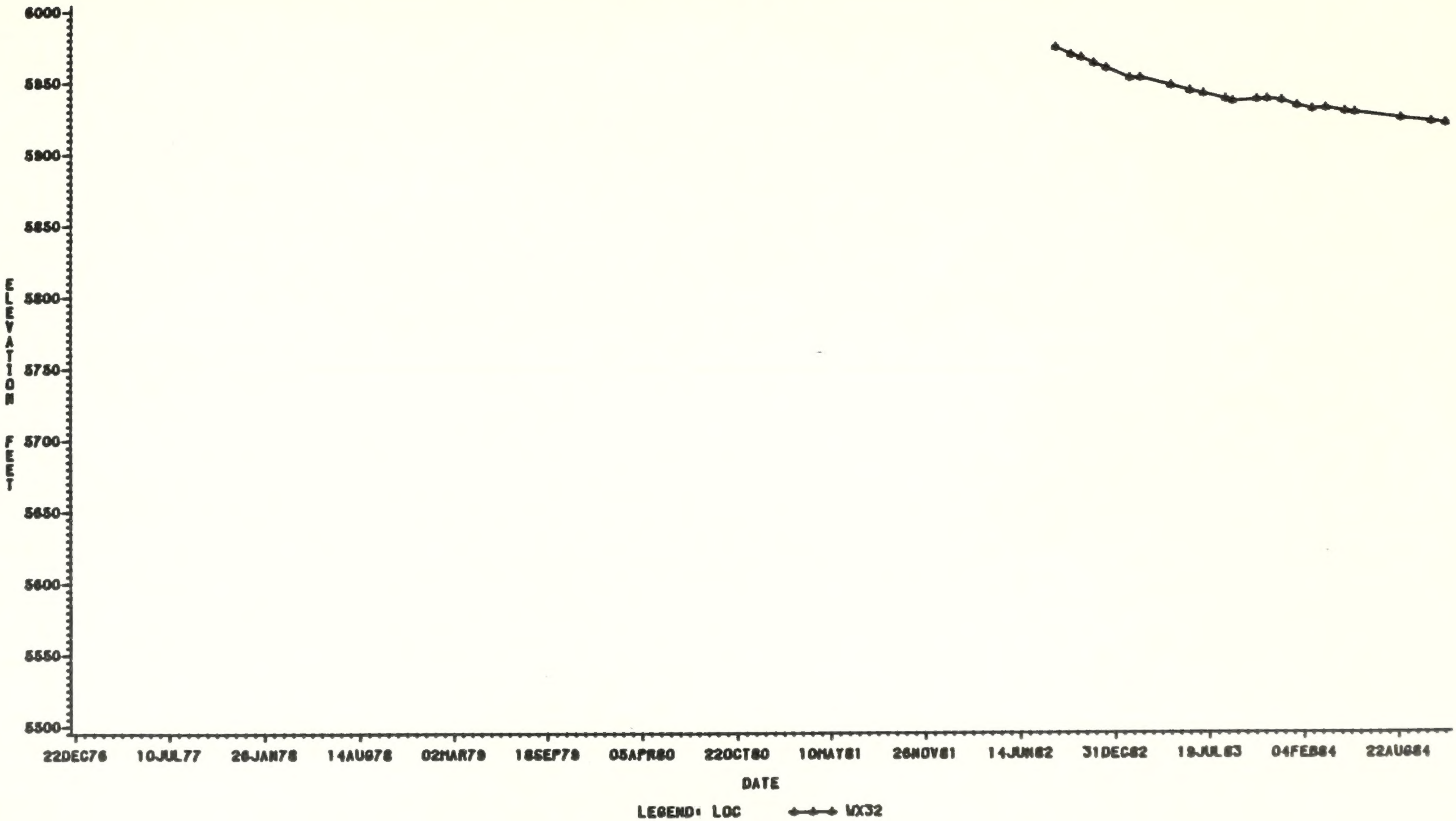


CB WELL LEVELS



C–B WELL LEVELS

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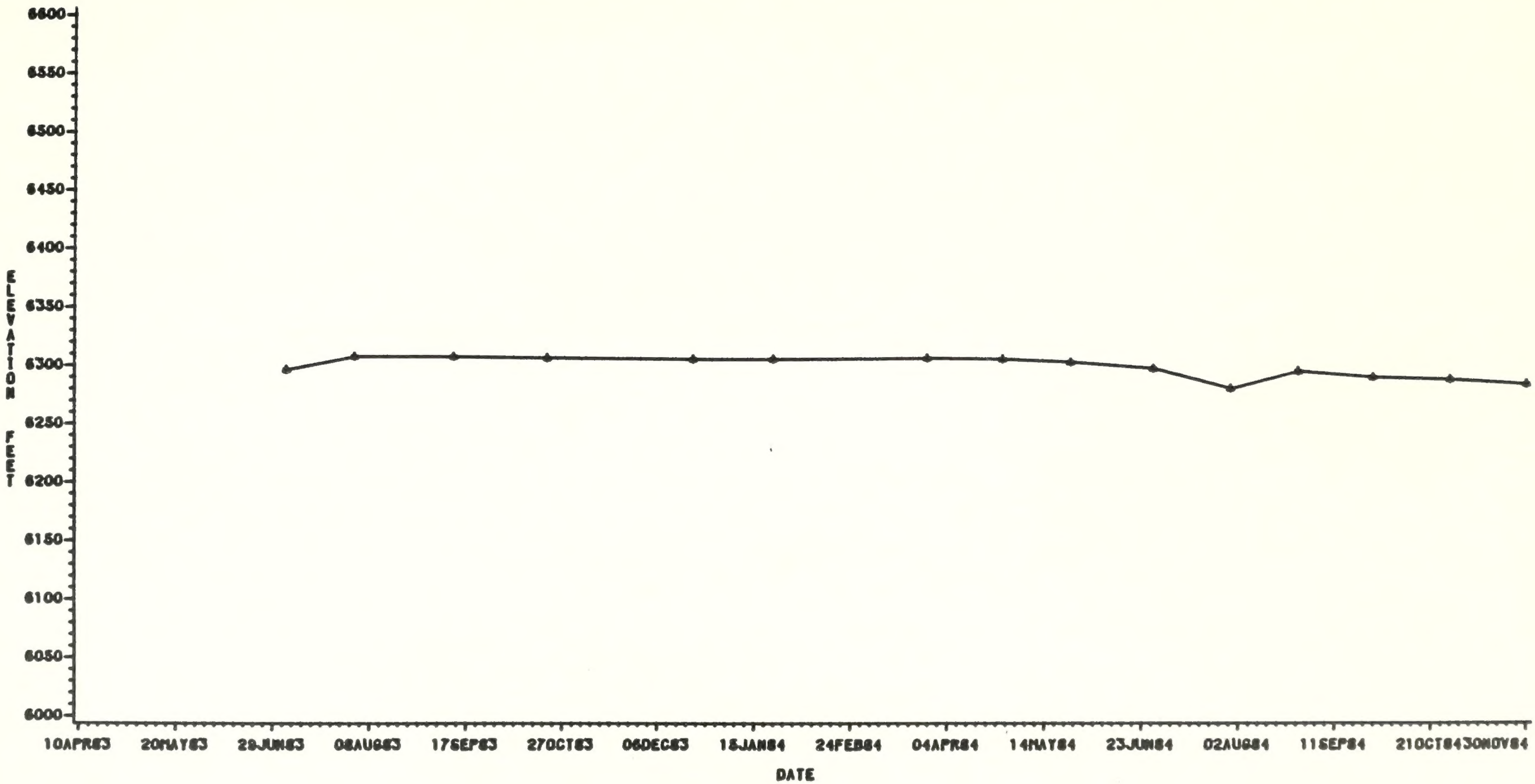

C-B WELL LEVELS

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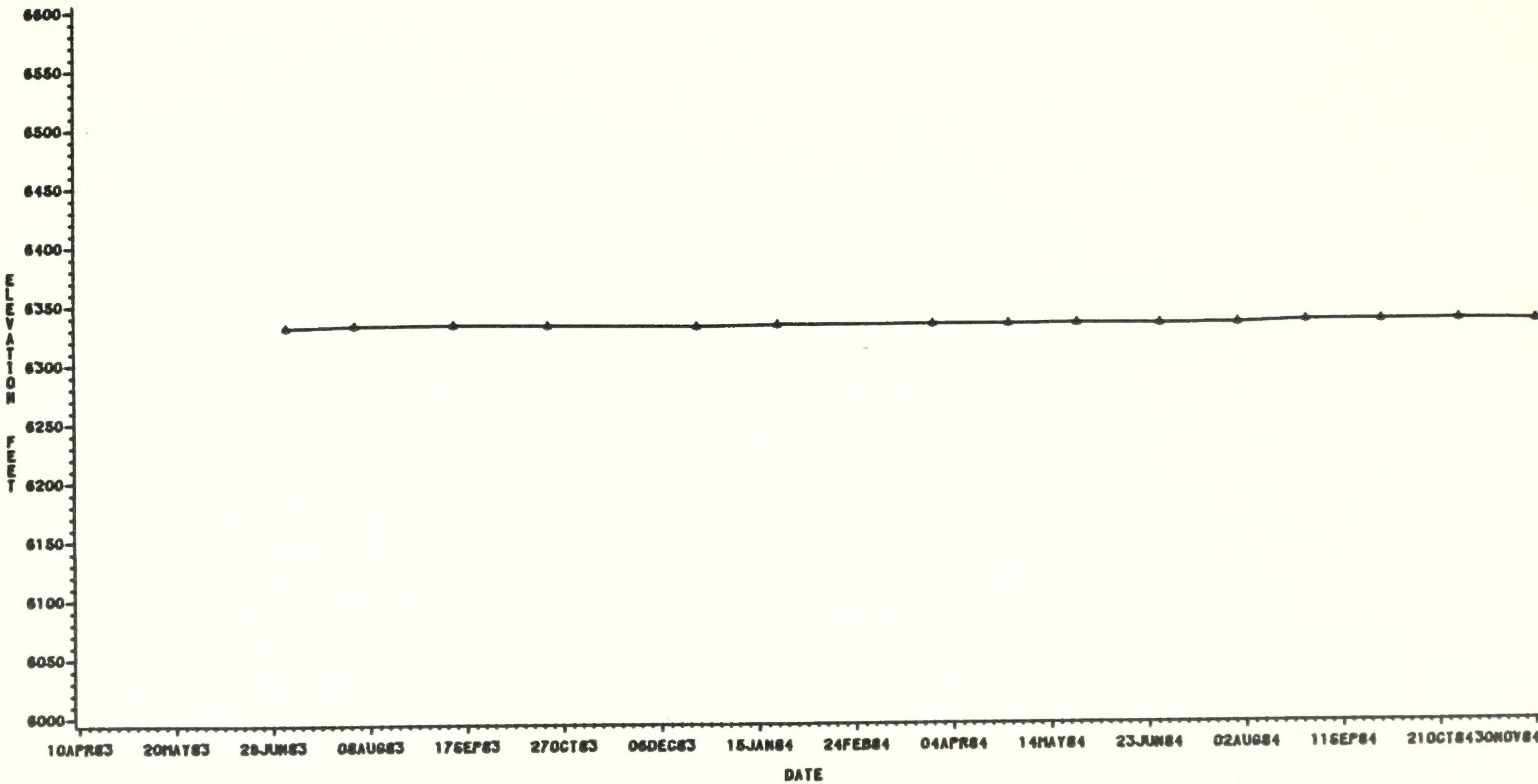

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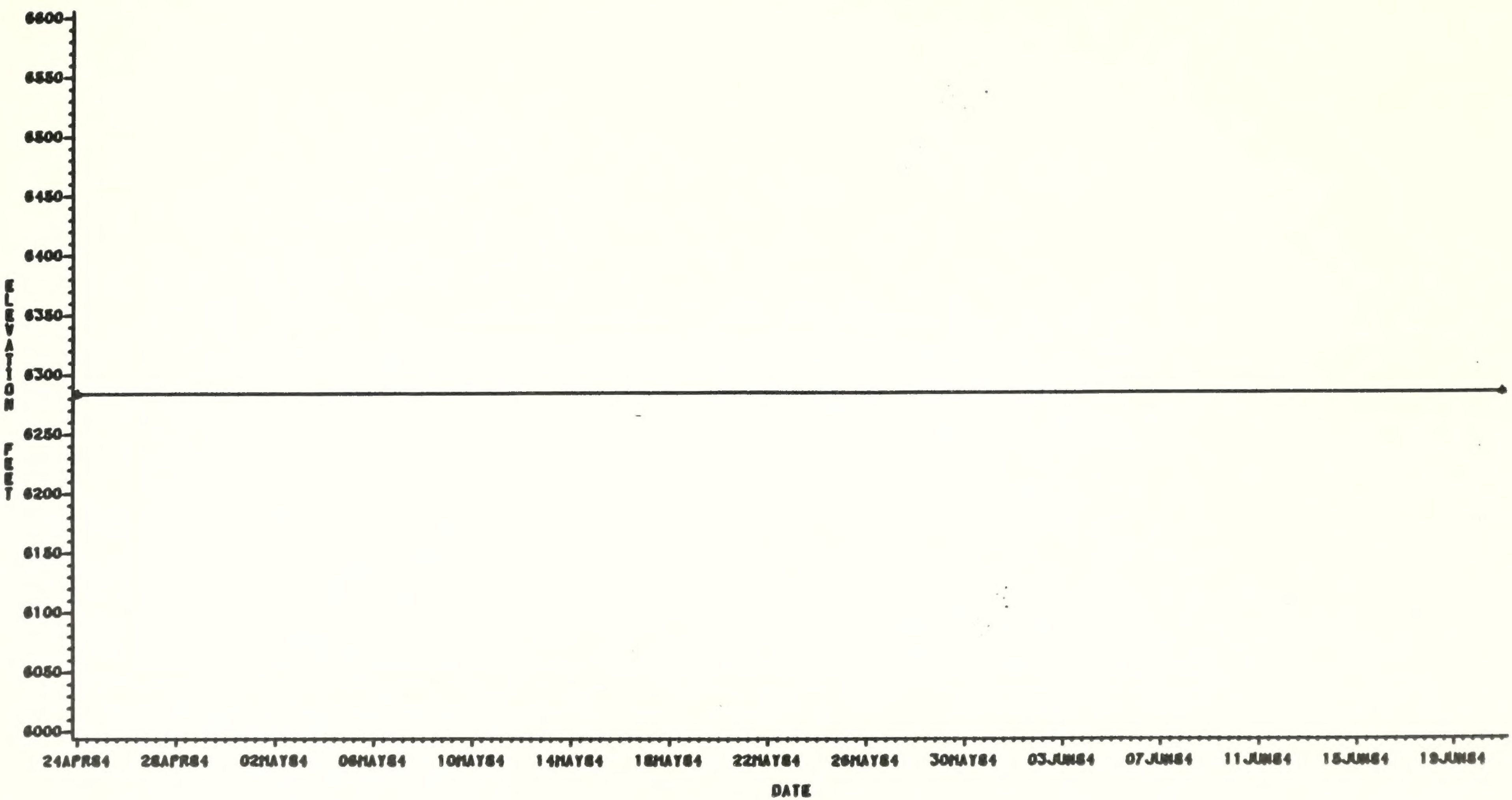


C–B WELL LEVELS

B-102-3-2 (WB03)

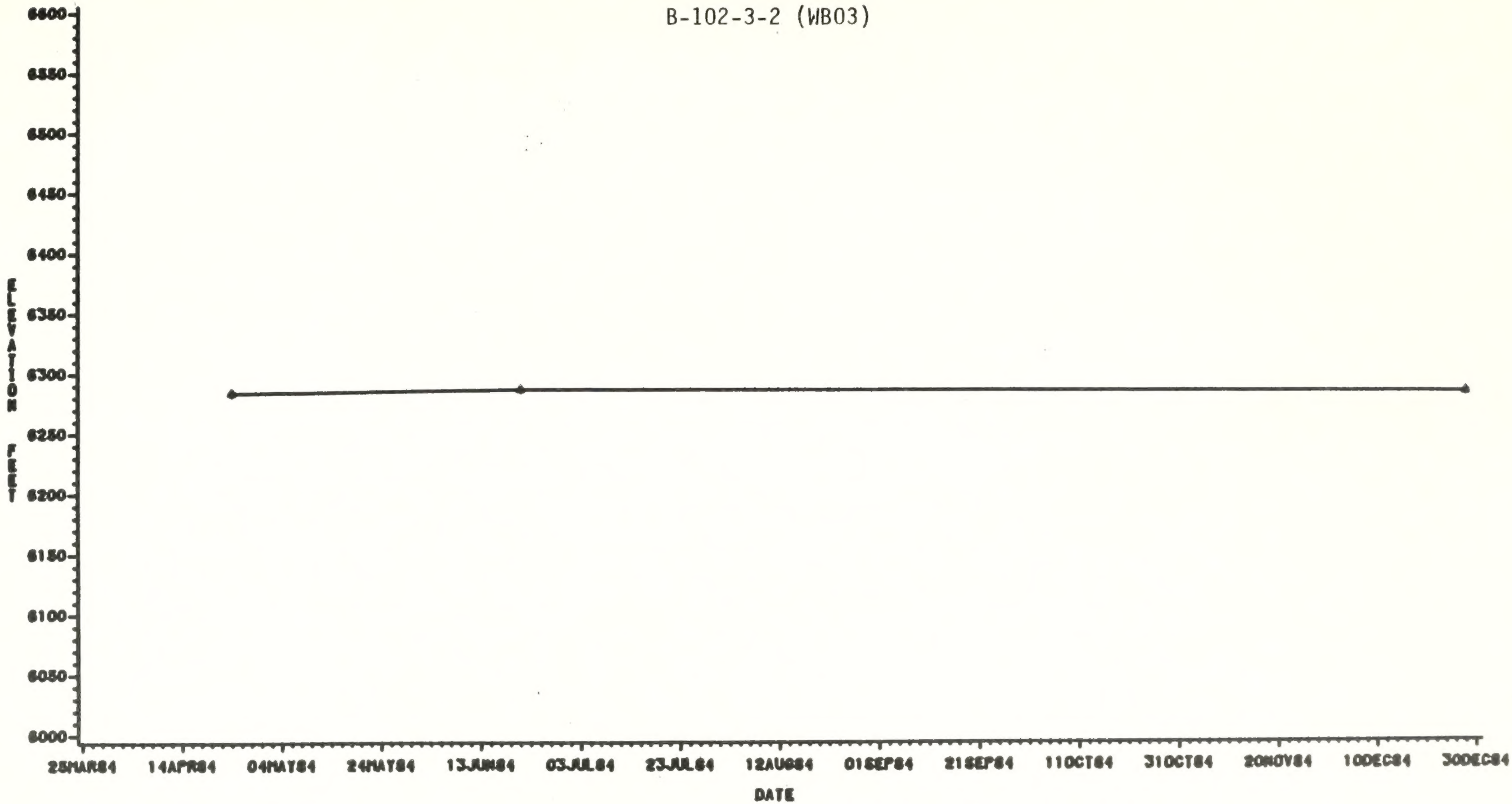
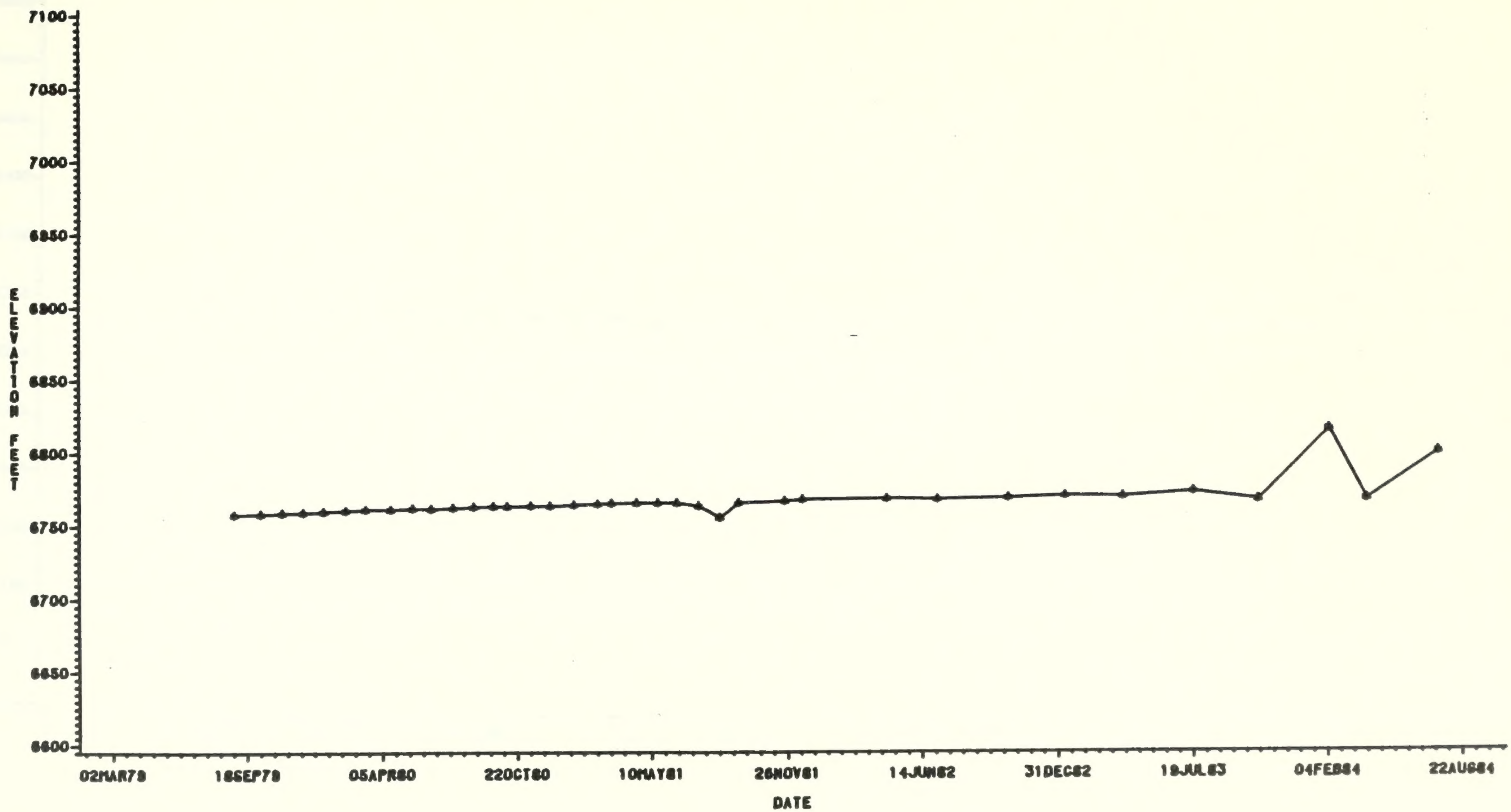
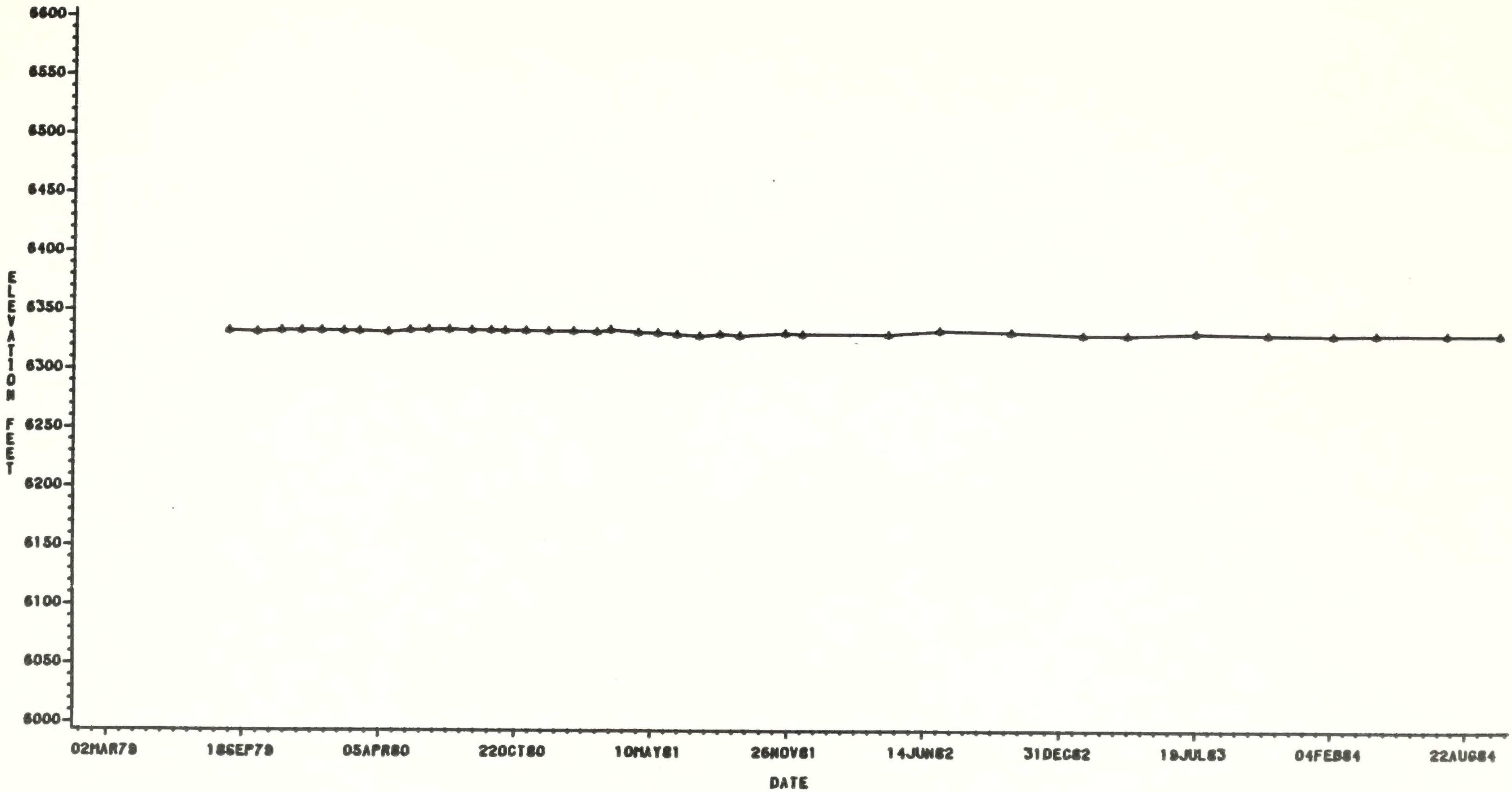


TABLE 1.2.1.4-16

WATER LEVEL PLOTS OF UPPER AQUIFER WELLS
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WX64



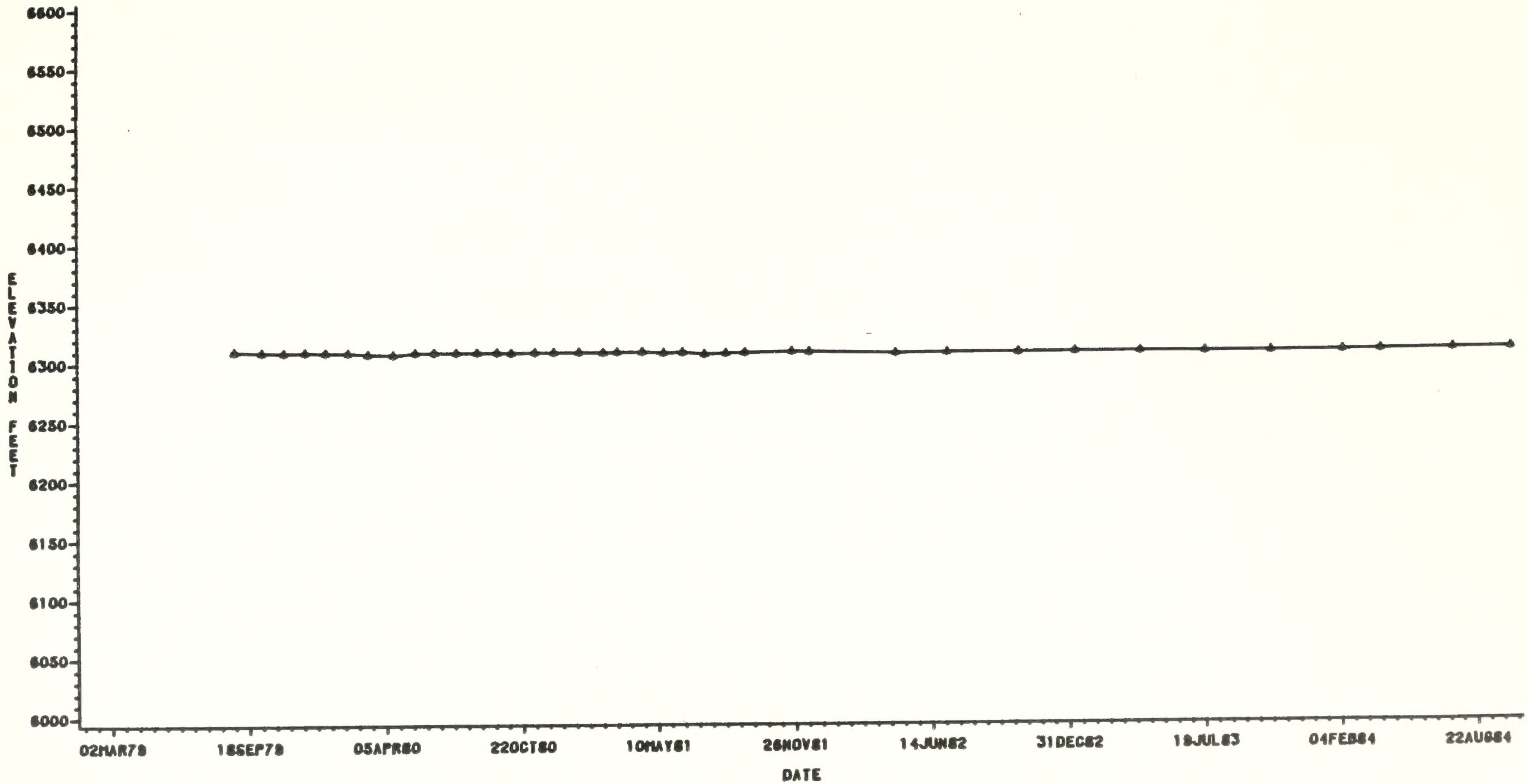
WATER LEVEL PLOTS IN UPPER AQUIFER WELLS
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WX65



WATER LEVEL PLOTS IN UPPER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

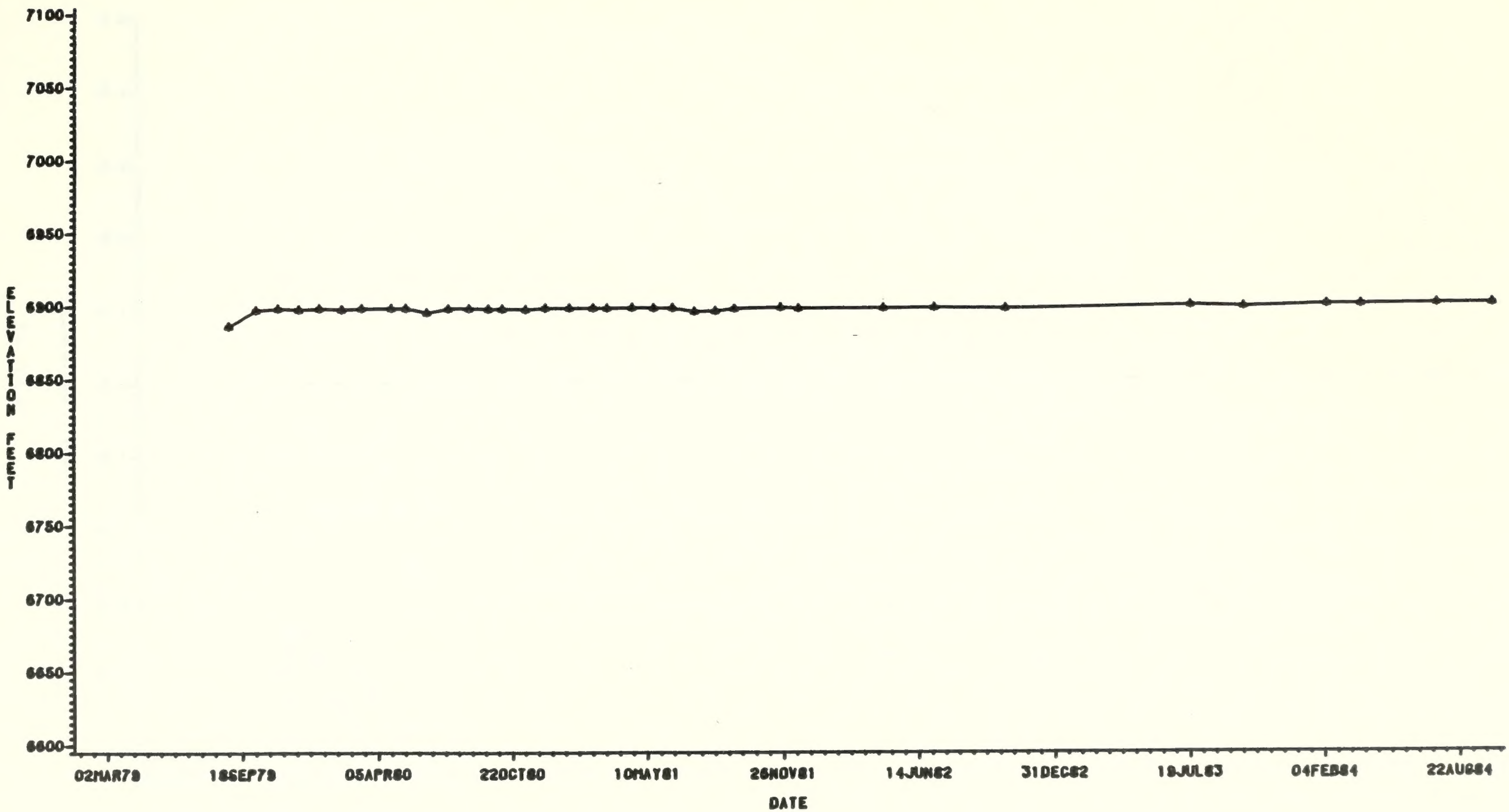
LOC=WX67



WATER LEVEL PLOTS OF UPPER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

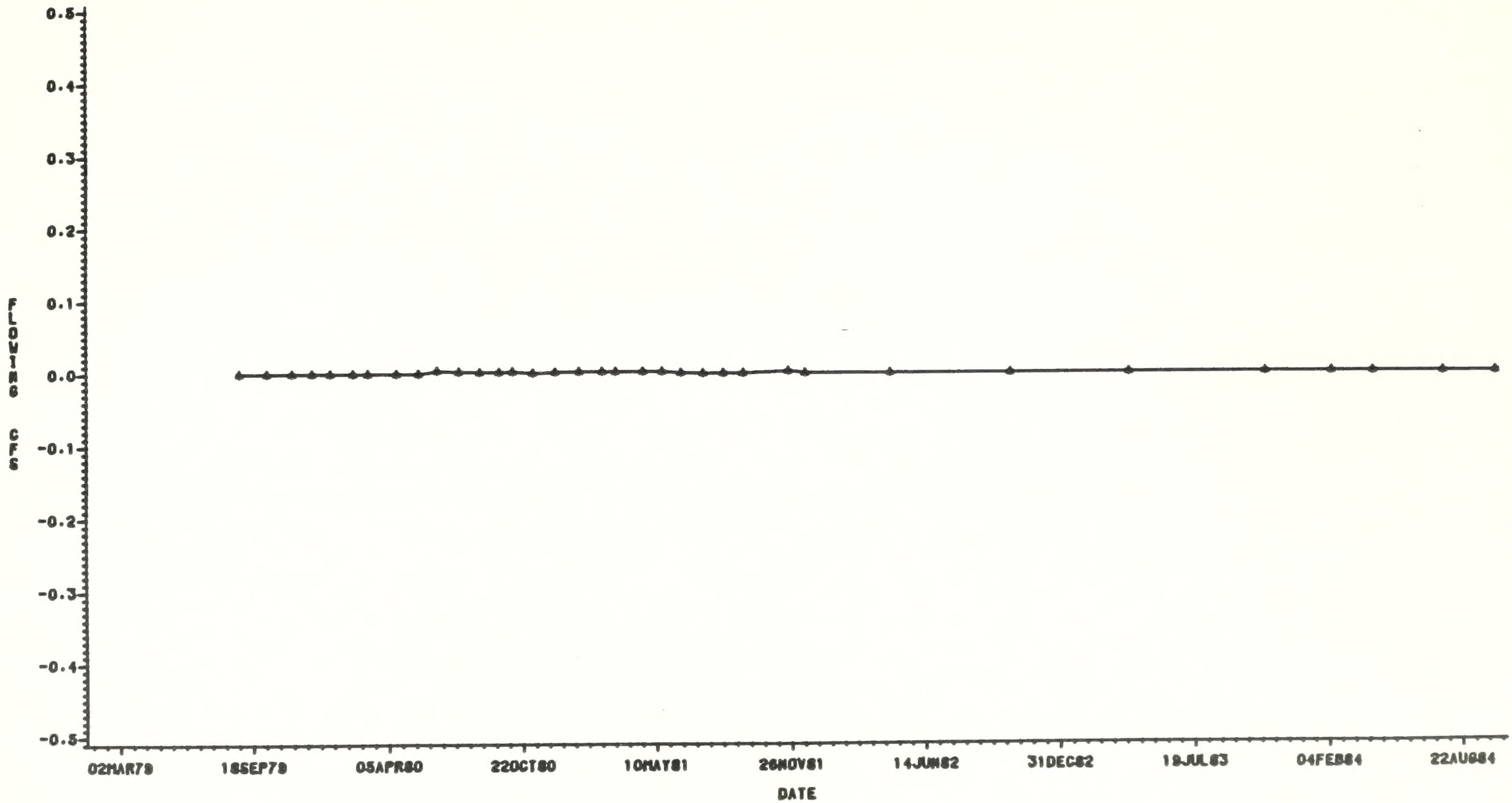
LOC=WX69



WATER LEVEL PLOTS OF UPPER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

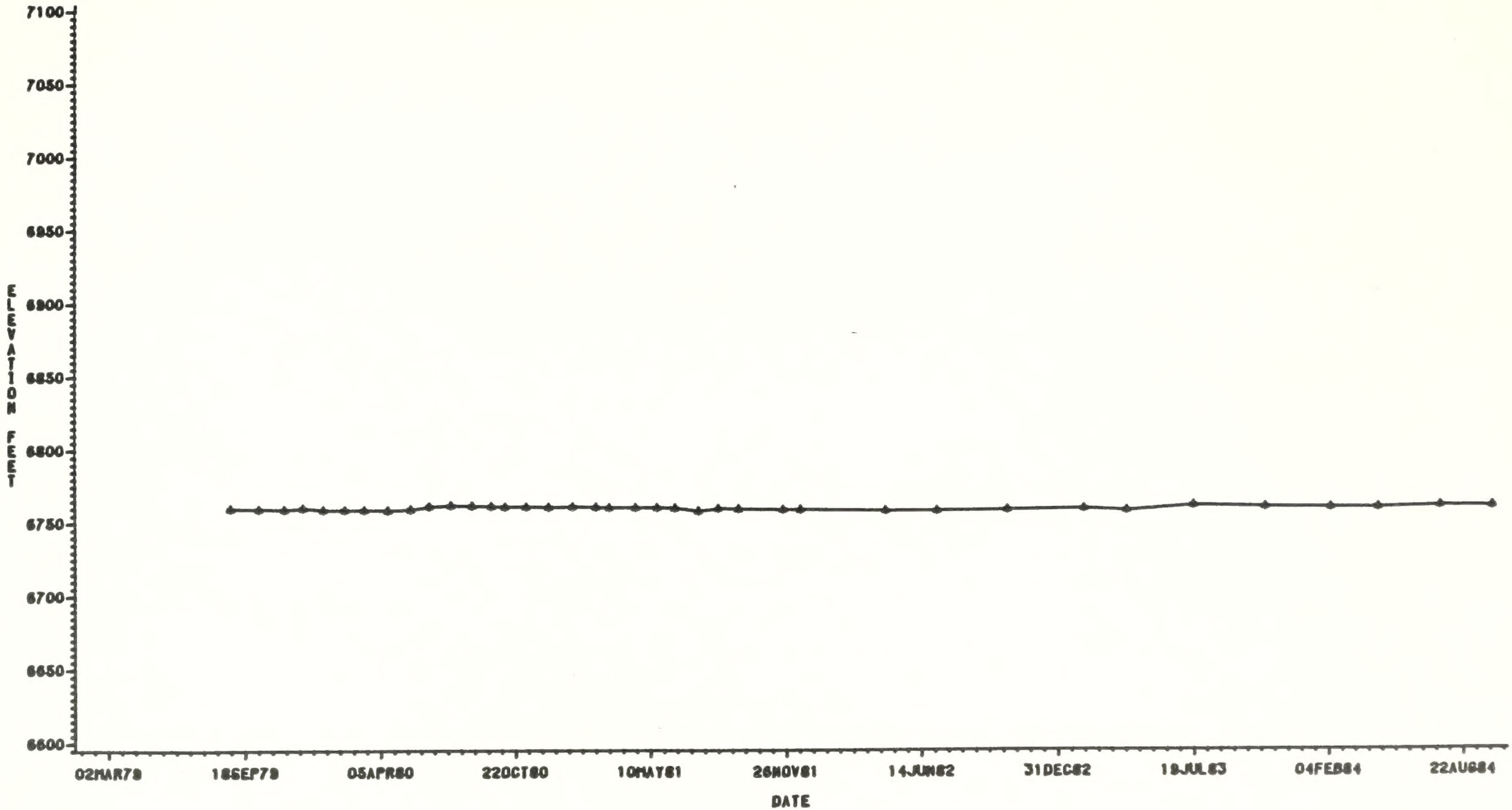
LOC=WX71



WATER LEVEL PLOTS OF UPPER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

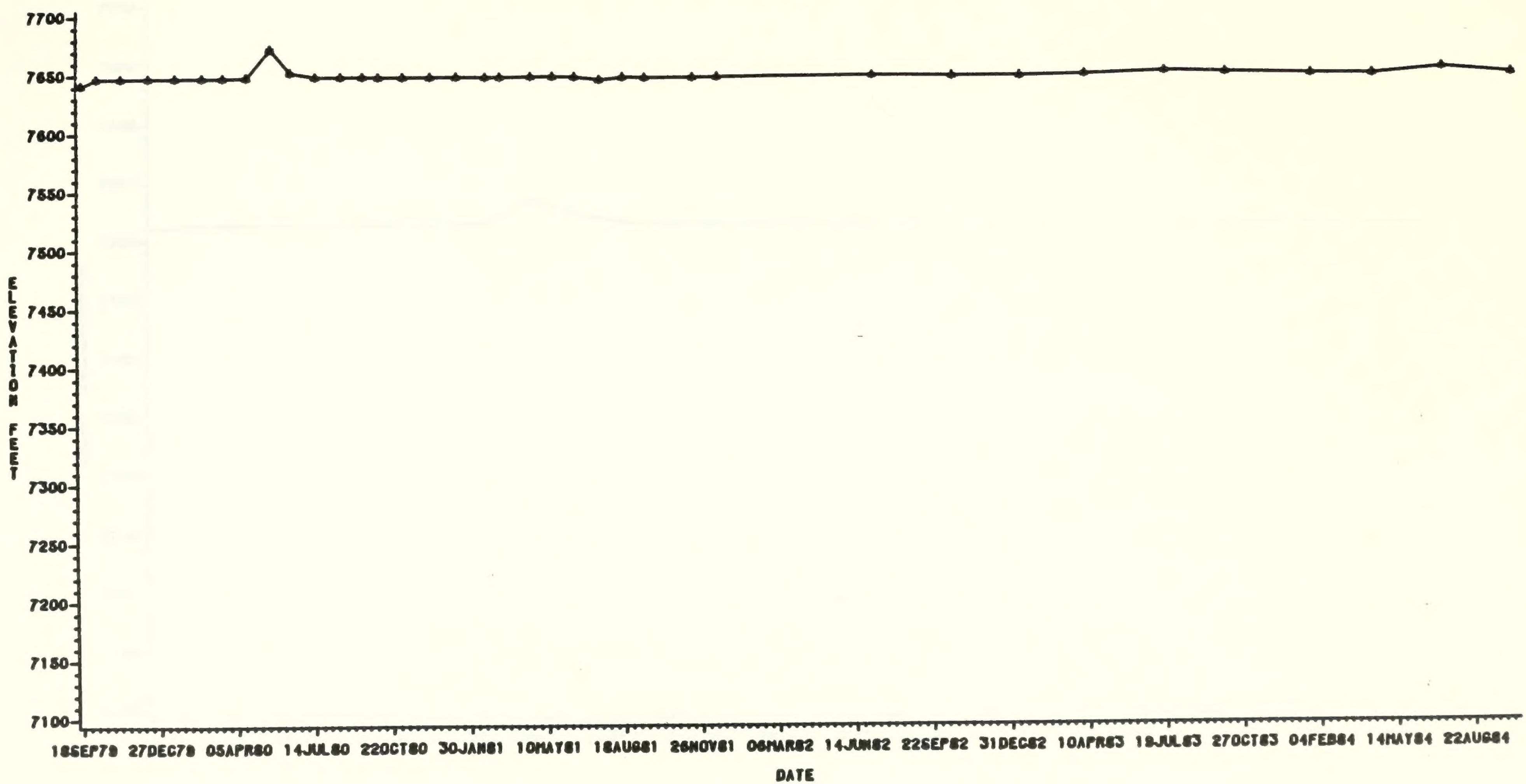
LOC=WX72



WATER LEVEL PLOTS OF UPPER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

LOC=WX73



WATER LEVEL PLOTS OF UPPER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WX75

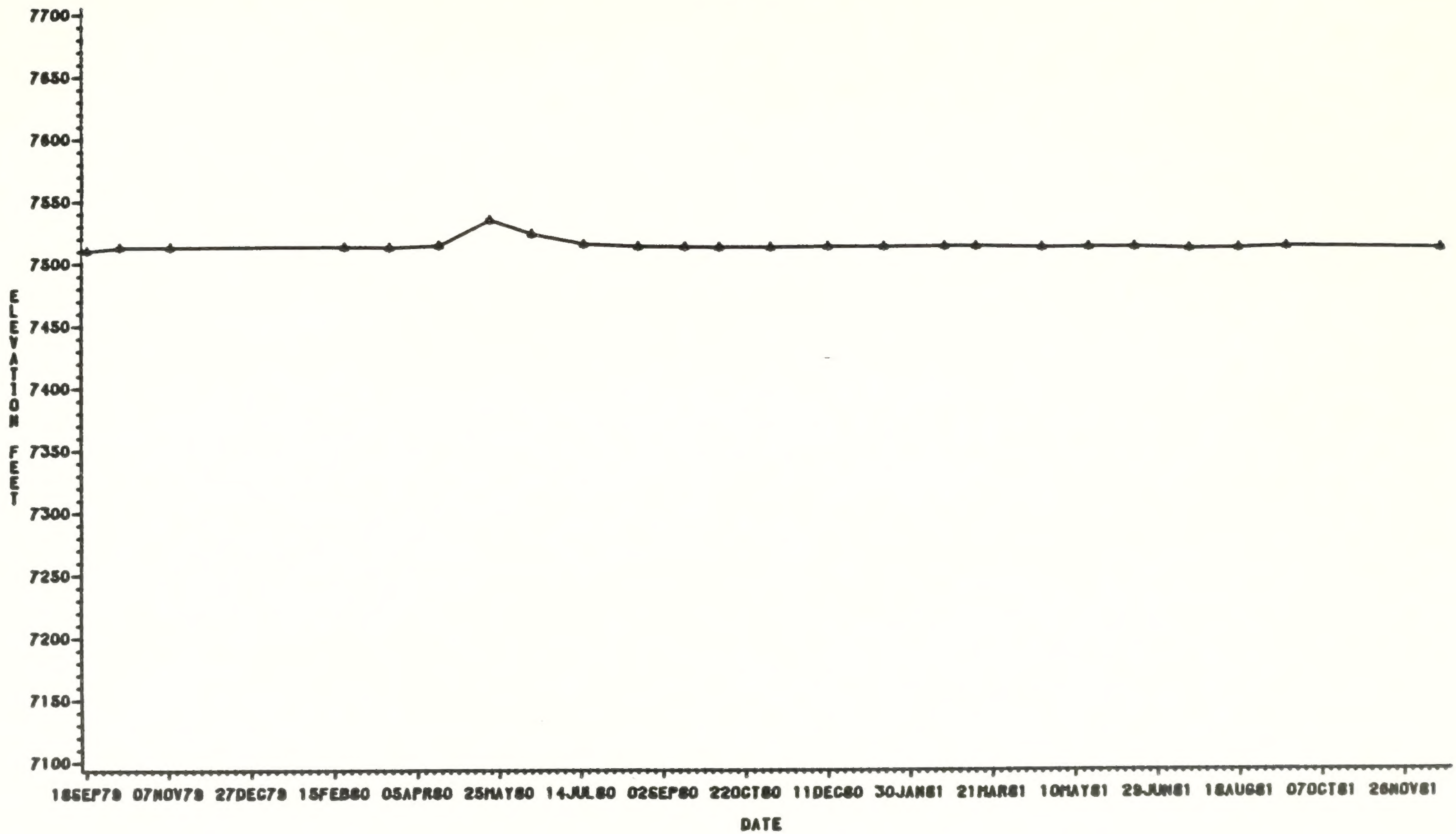
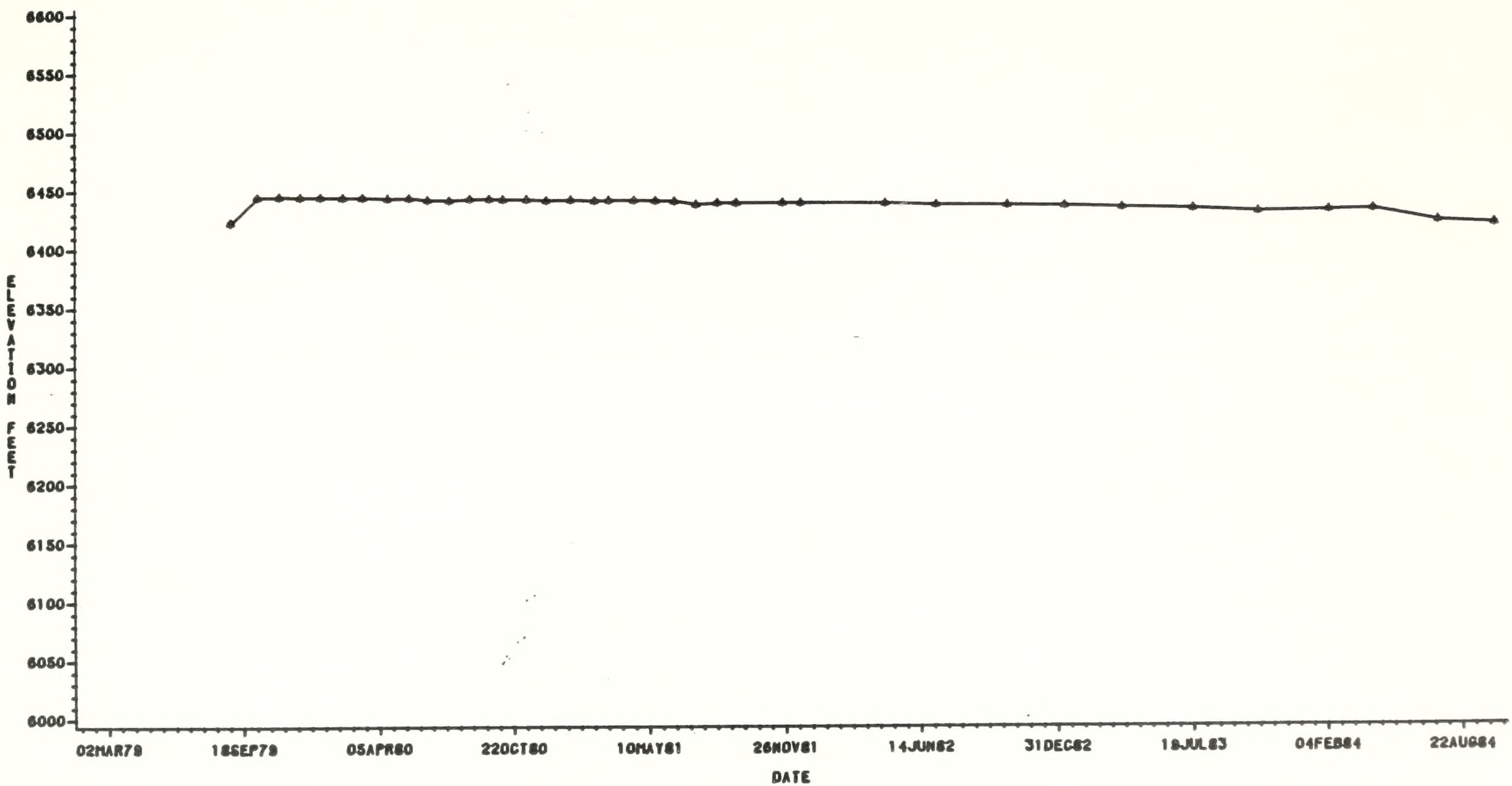


TABLE 1.2.1.4-17

WATER LEVEL PLOTS IN LOWER AQUIFER WELLS

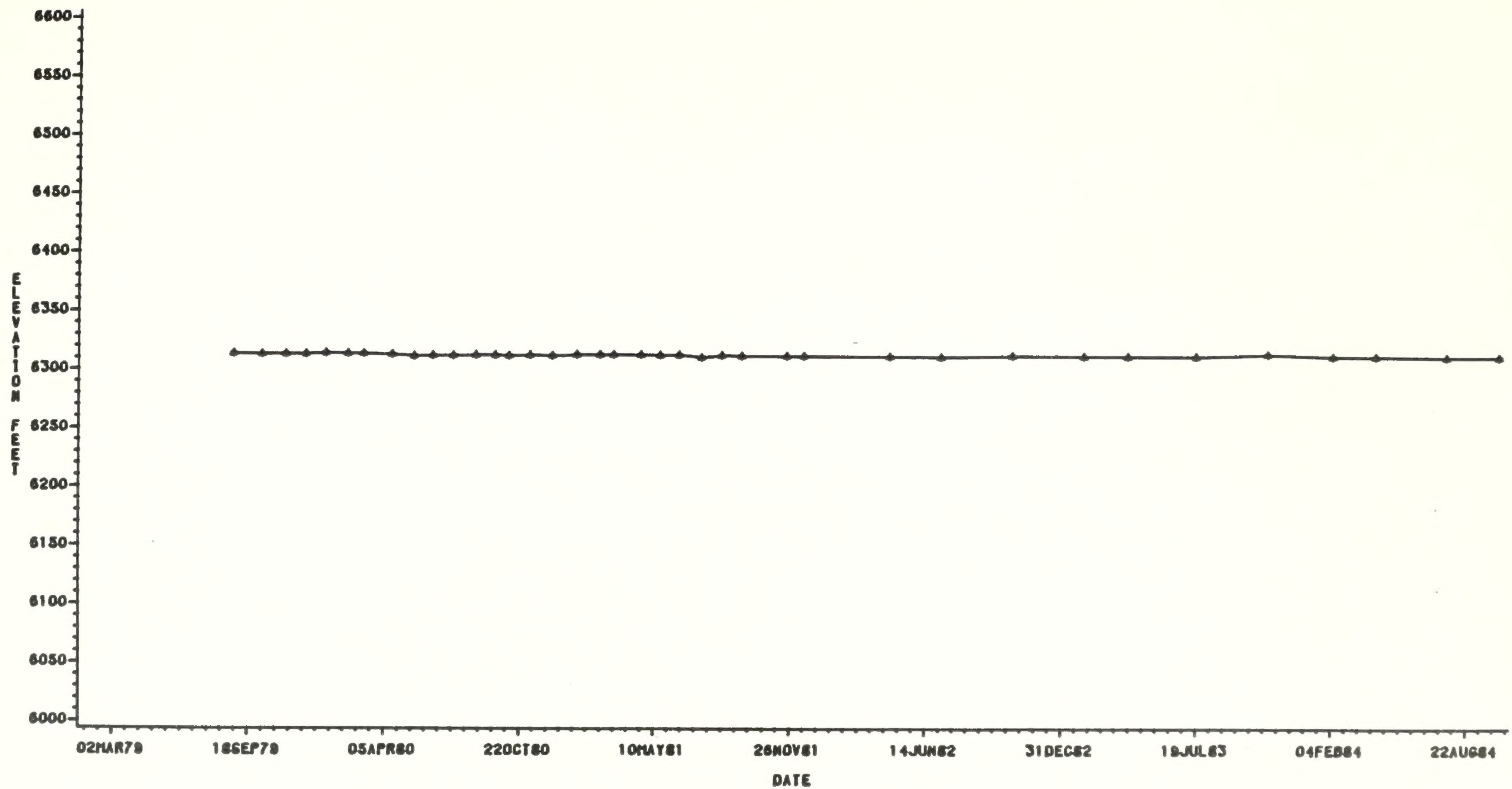
REQUIRED BY WATER AUGMENTATION PLAN

LOC=WY64

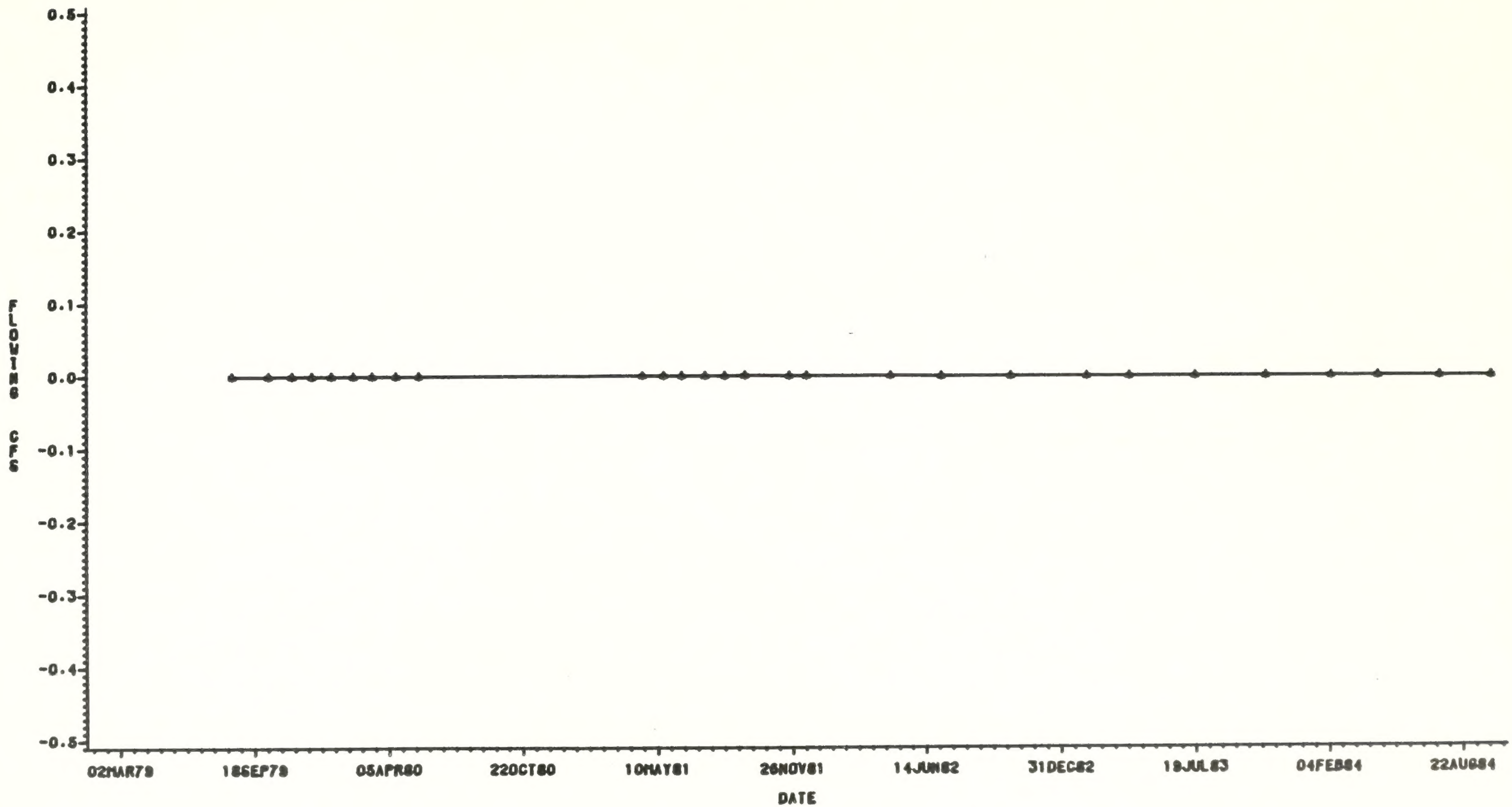


WATER LEVEL PLOTS IN LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY65



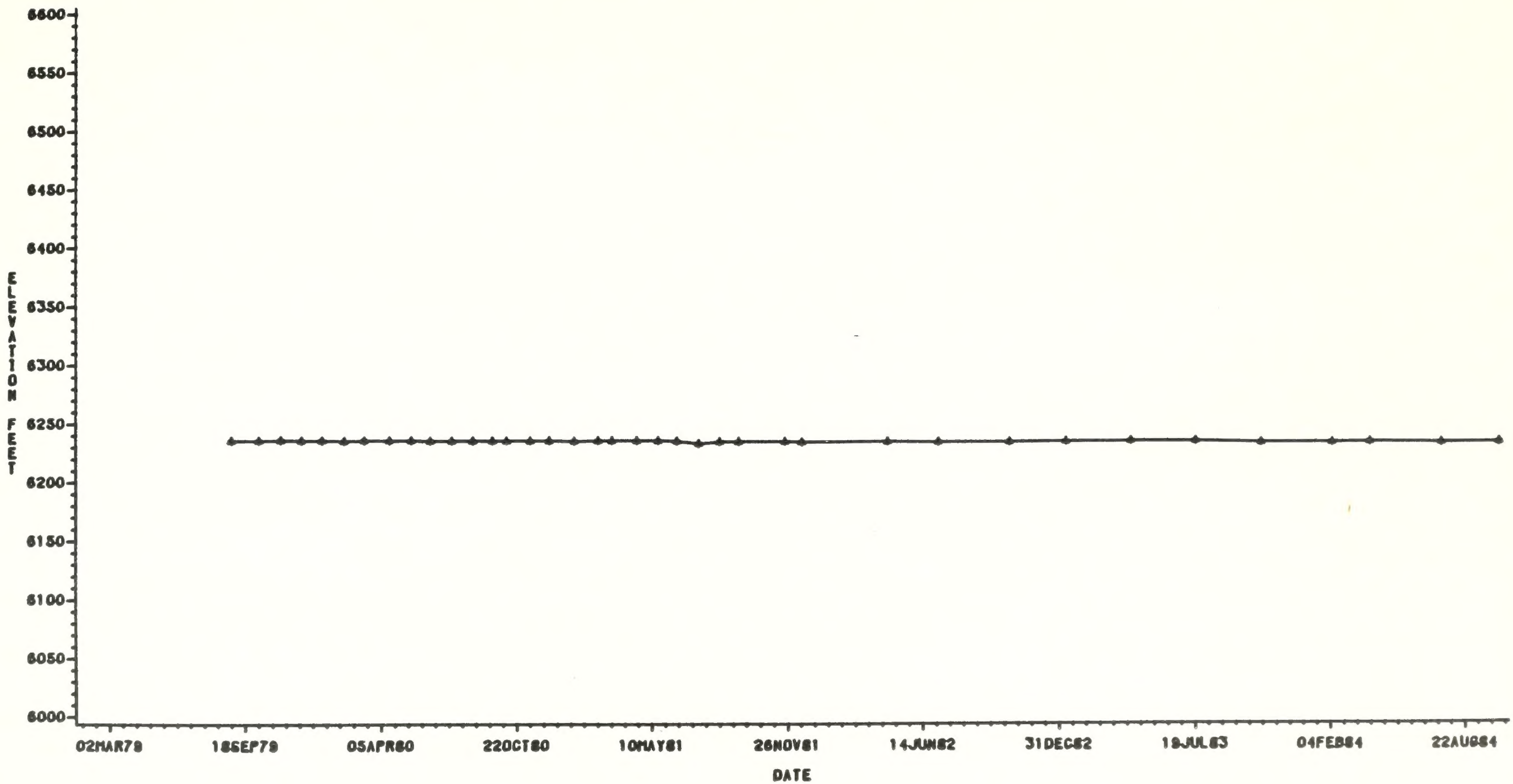
WATER LEVEL PLOTS OF LOWER AQUIFER WELLS
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY66



WATER LEVEL PLOTS IN LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

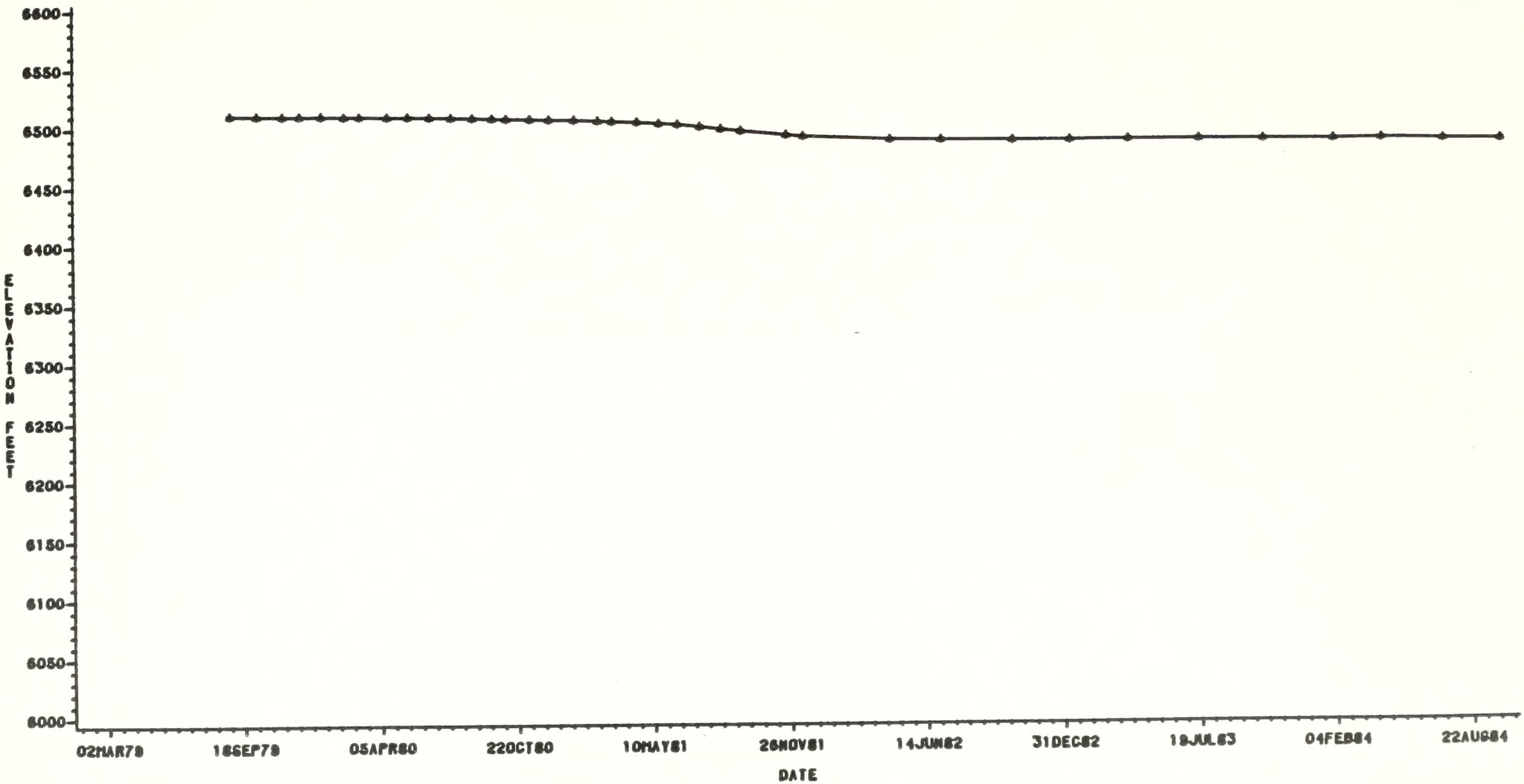
LOC=WY67



WATER LEVEL PLOTS IN LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

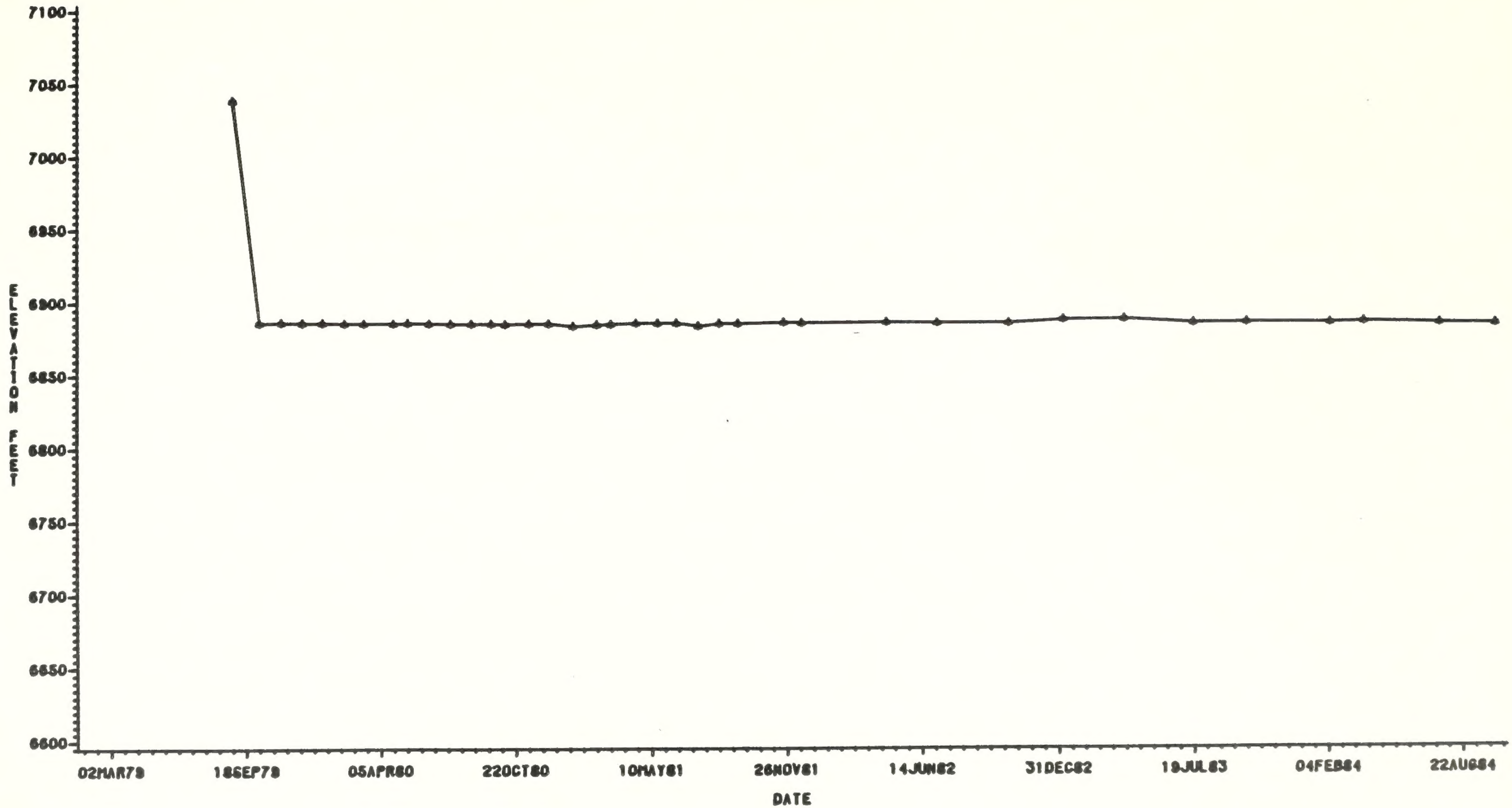
LOC=WY68



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

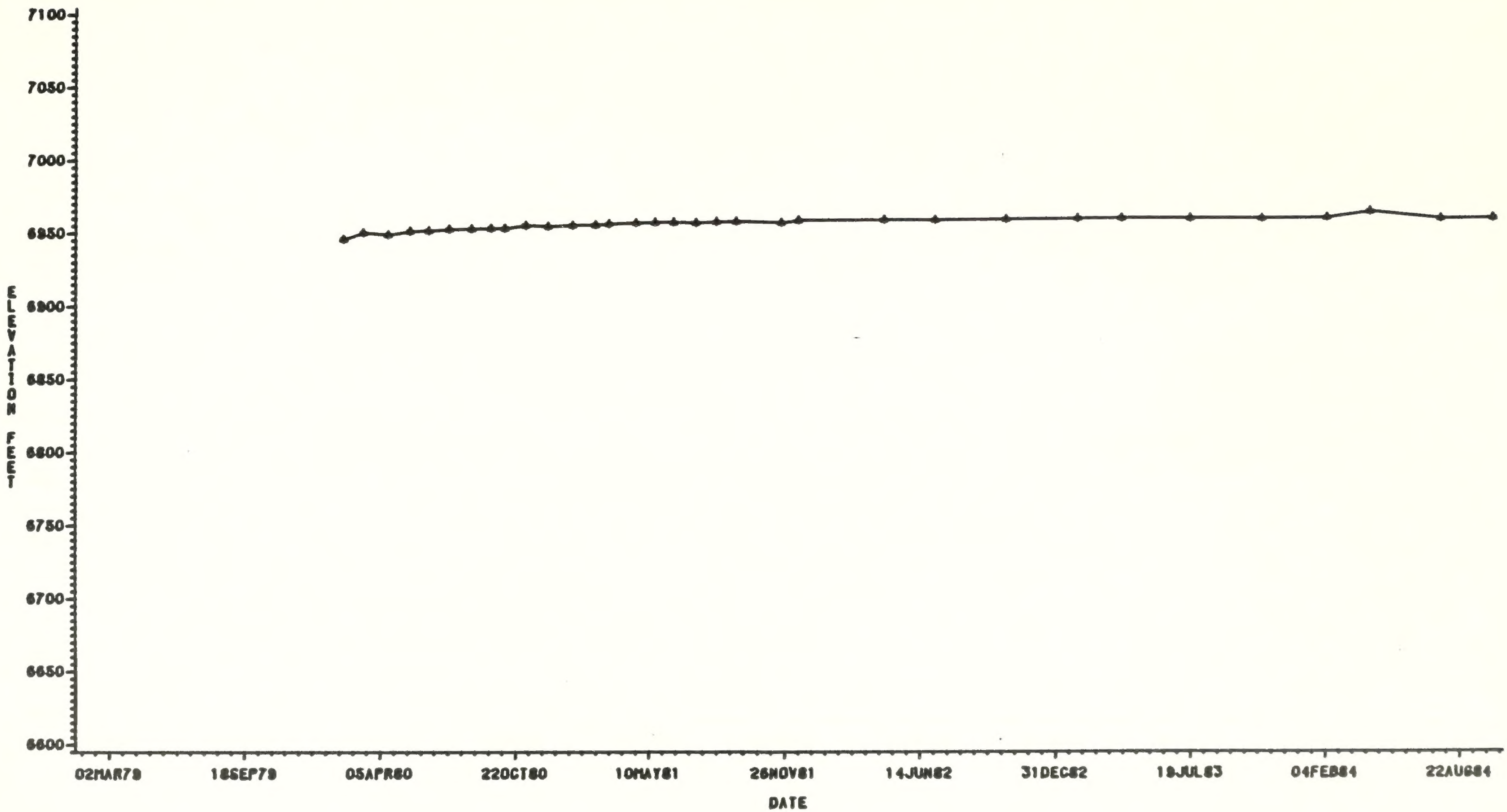
REQUIRED BY WATER AUGMENTATION PLAN

LOC-WY69



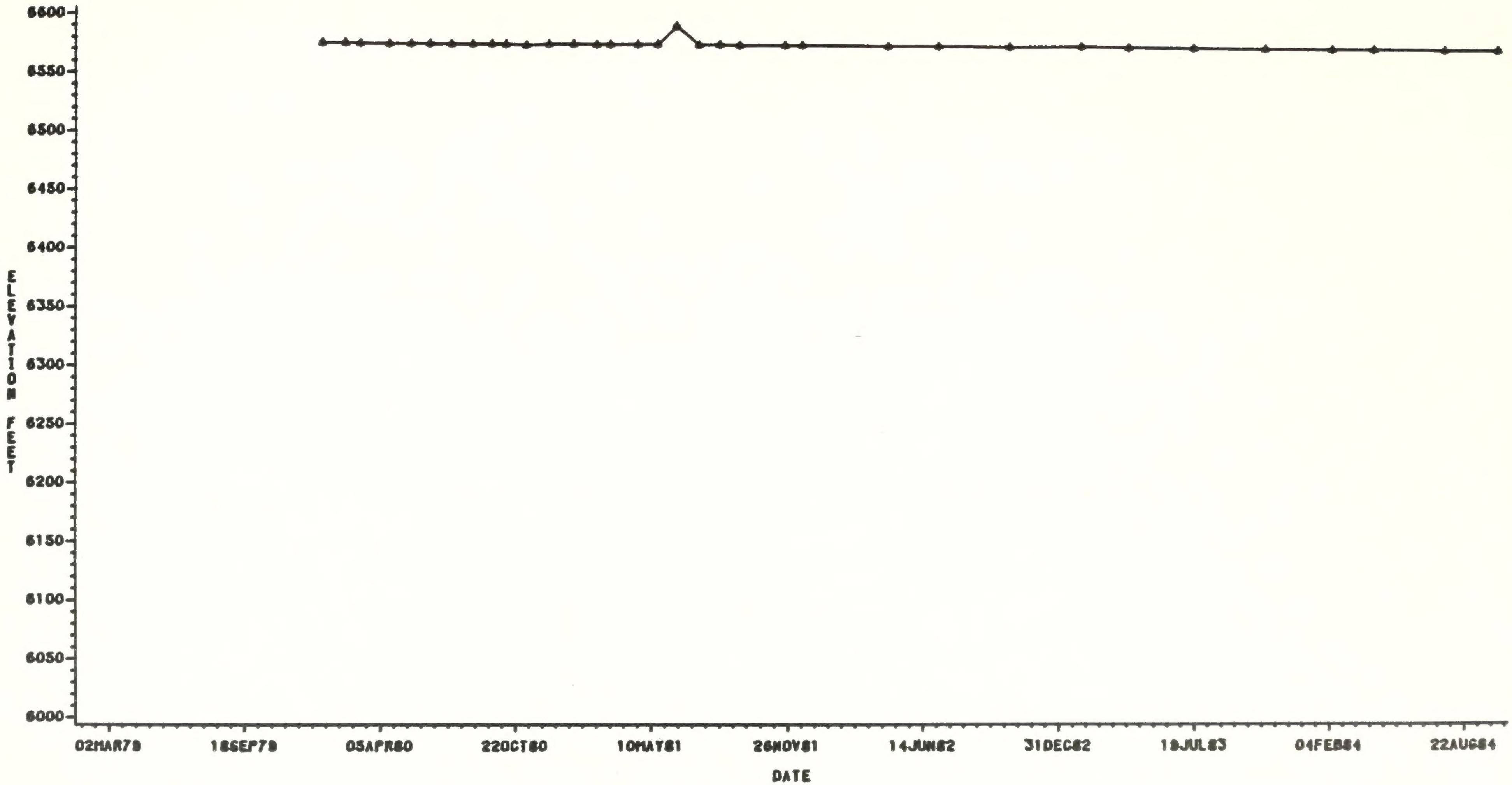
WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY70



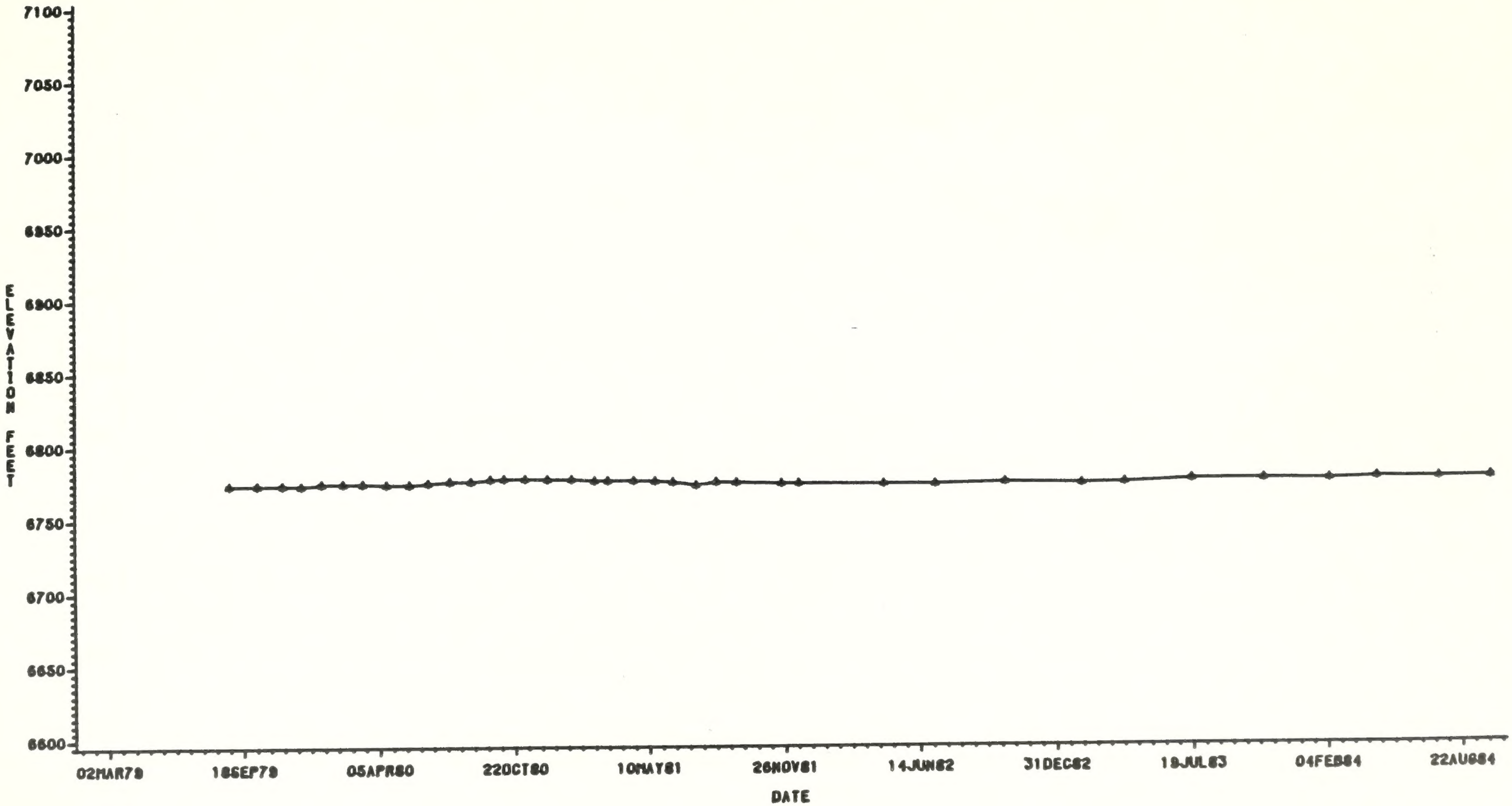
WATER LEVEL PLOTS IN LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY71



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

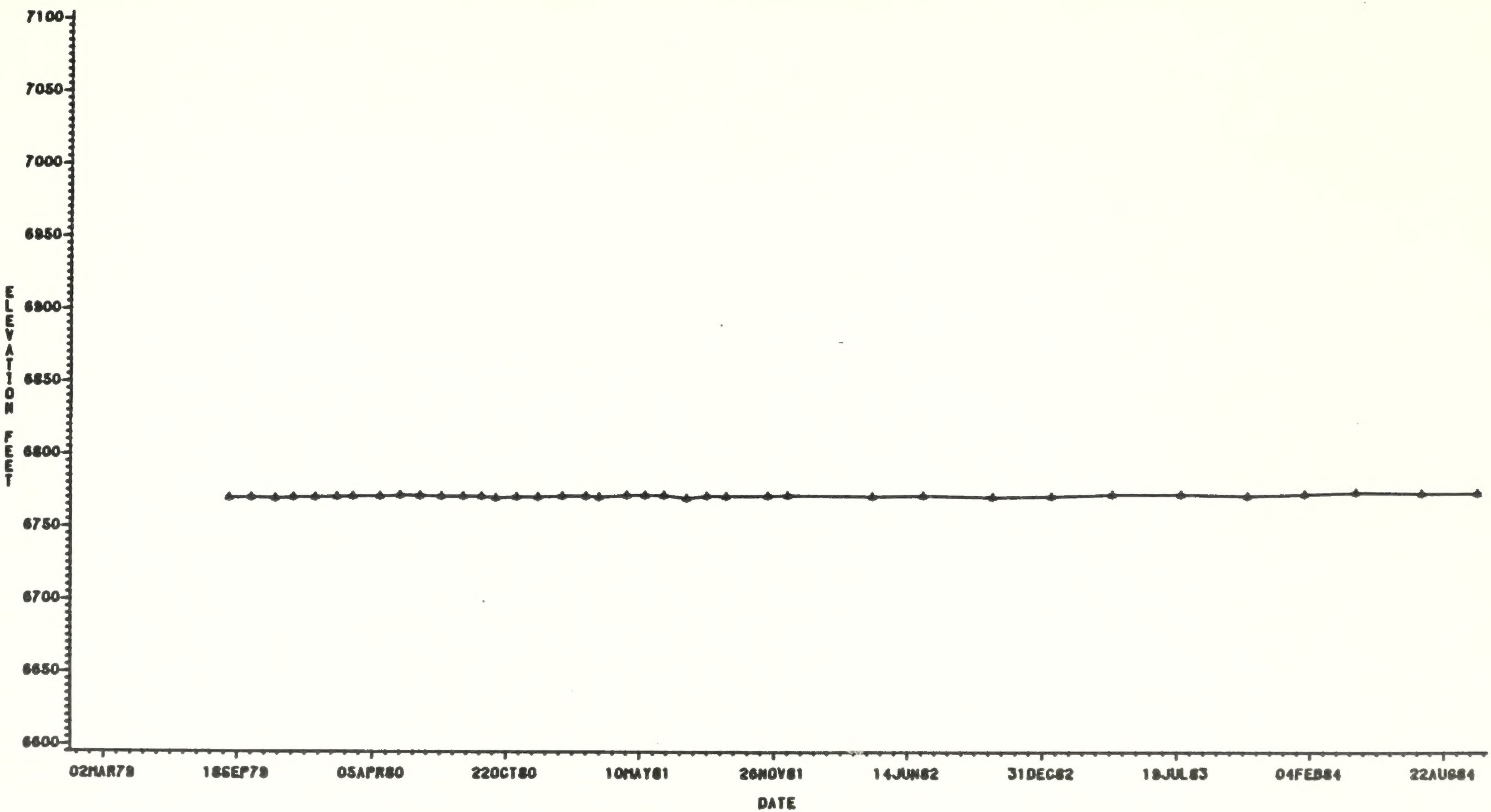
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY72



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

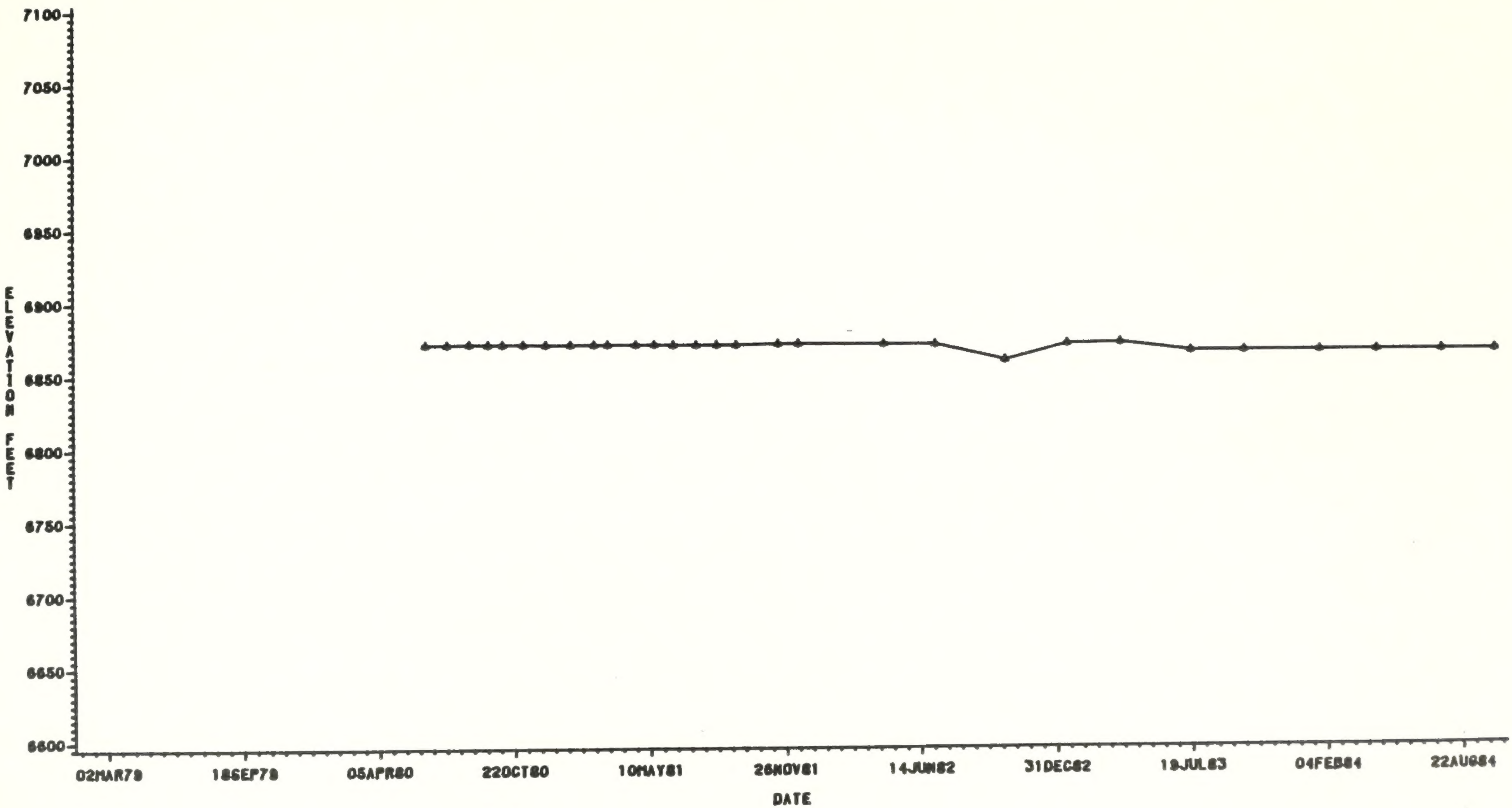
LOC-WY75



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN

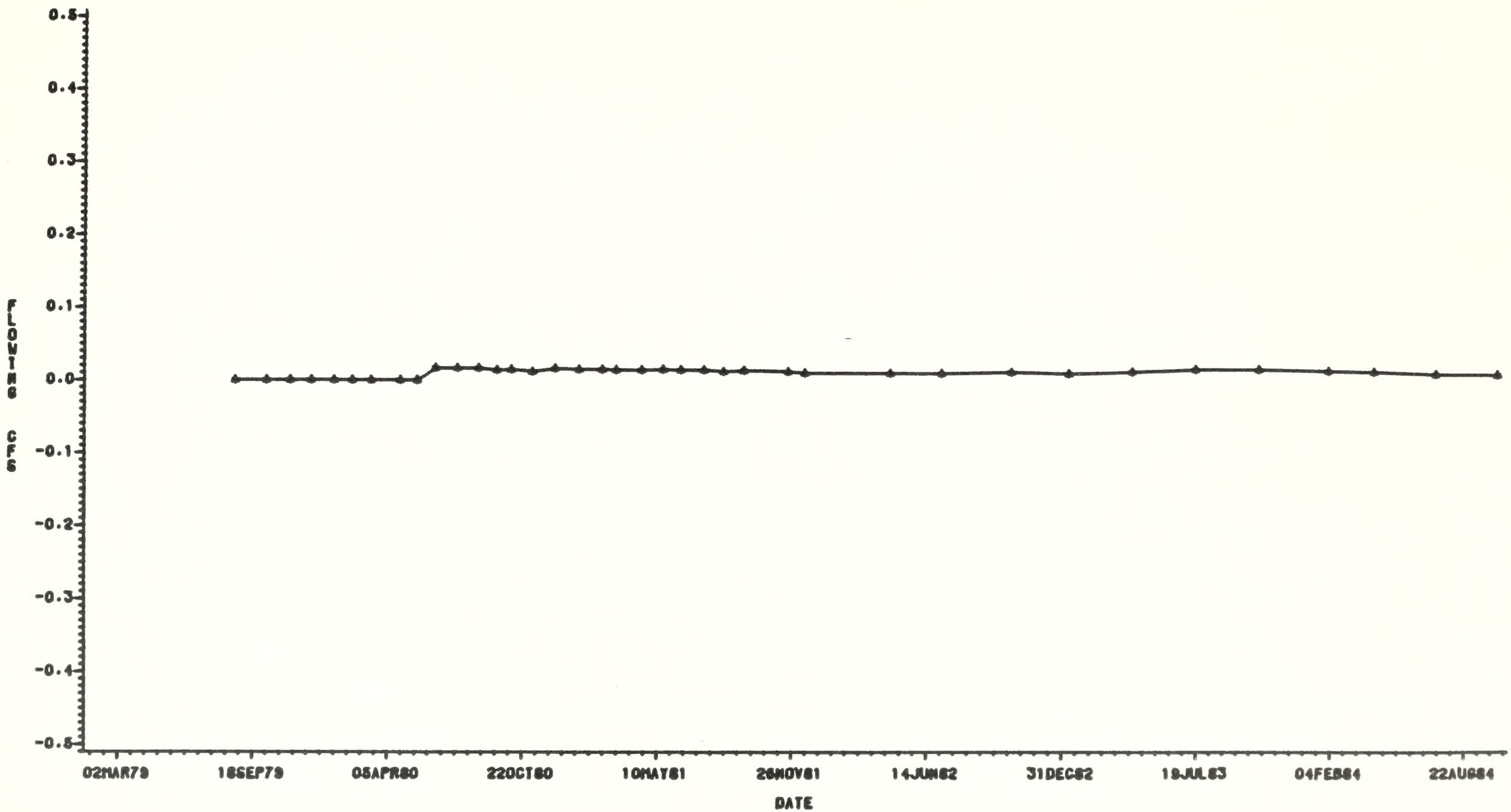
LOC=WY76



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

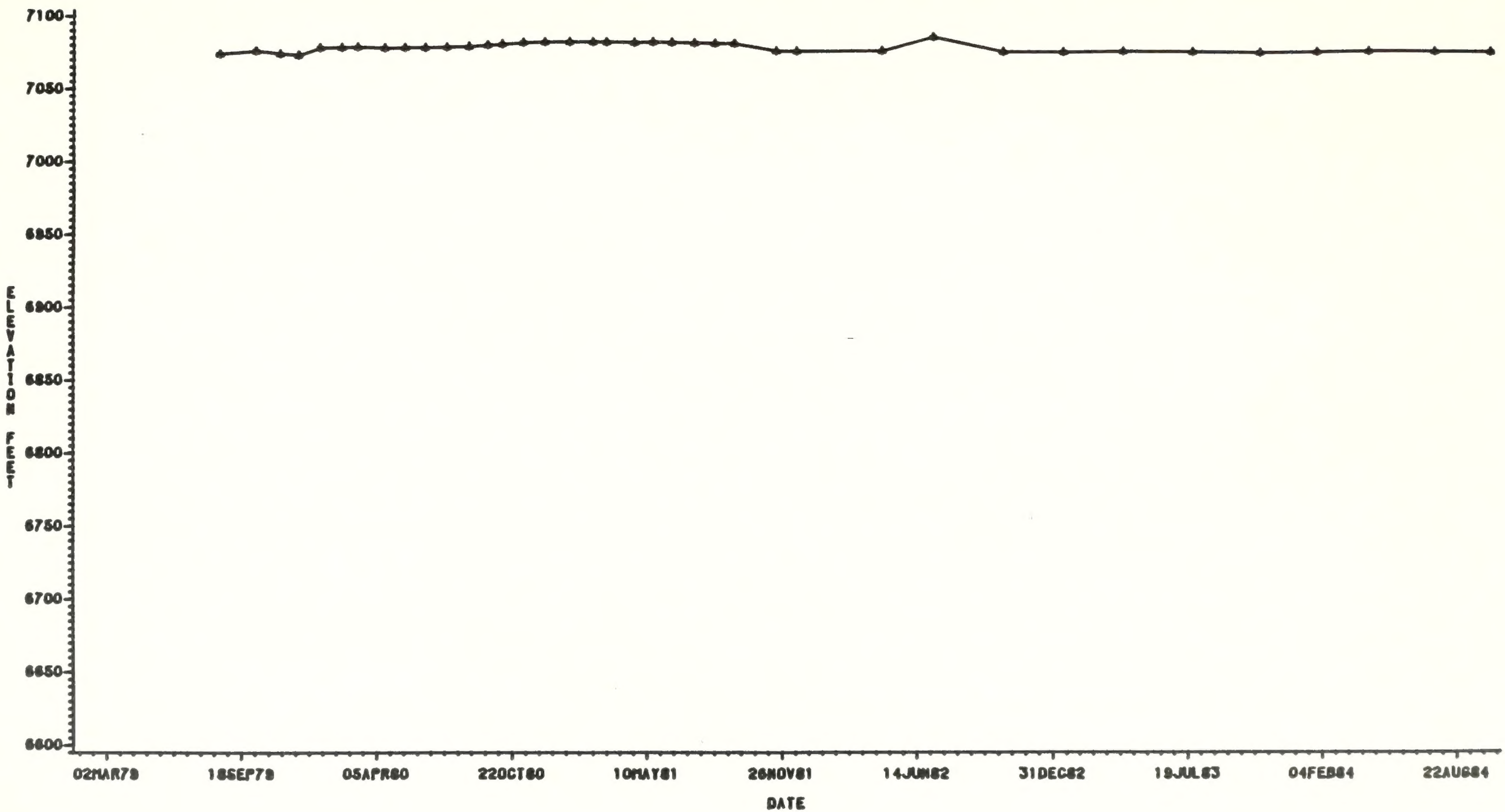
REQUIRED BY WATER AUGMENTATION PLAN

LOC=WY77



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC-WY78



WATER LEVEL PLOTS OF LOWER AQUIFER WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY79

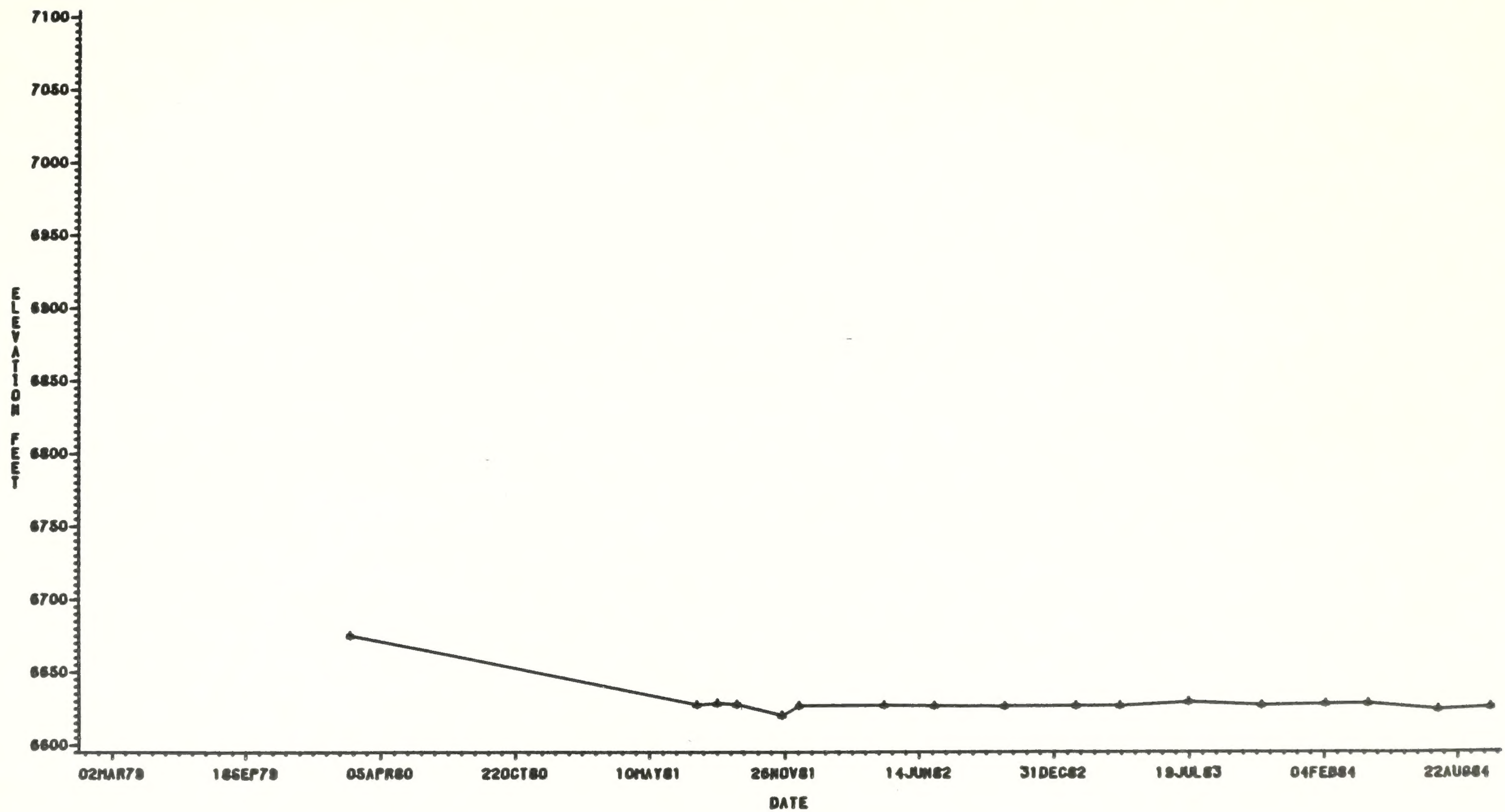
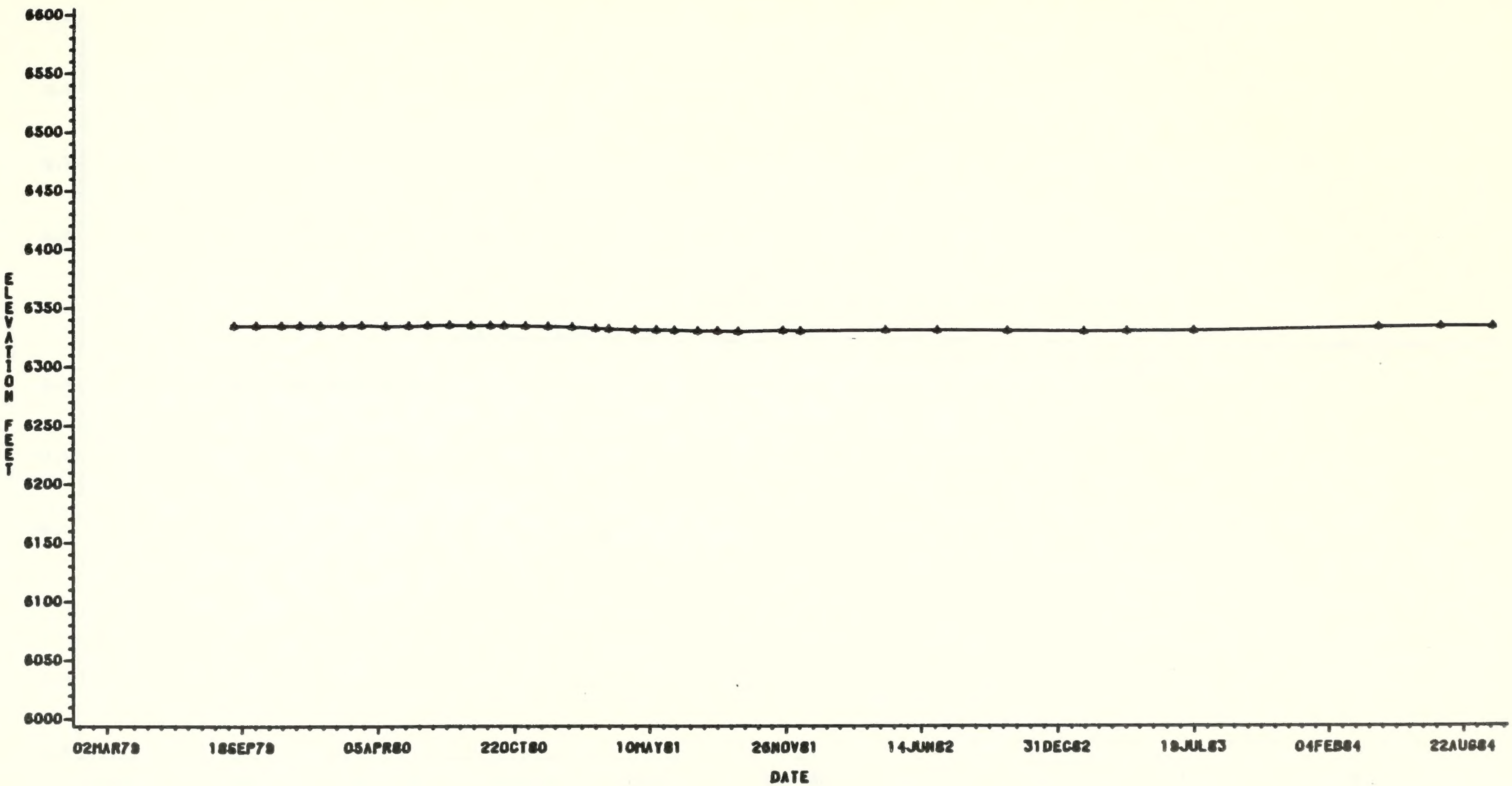


TABLE 1.2.1.4-18

PLOTS OF WATER LEVELS IN COMPOSITE WELLS

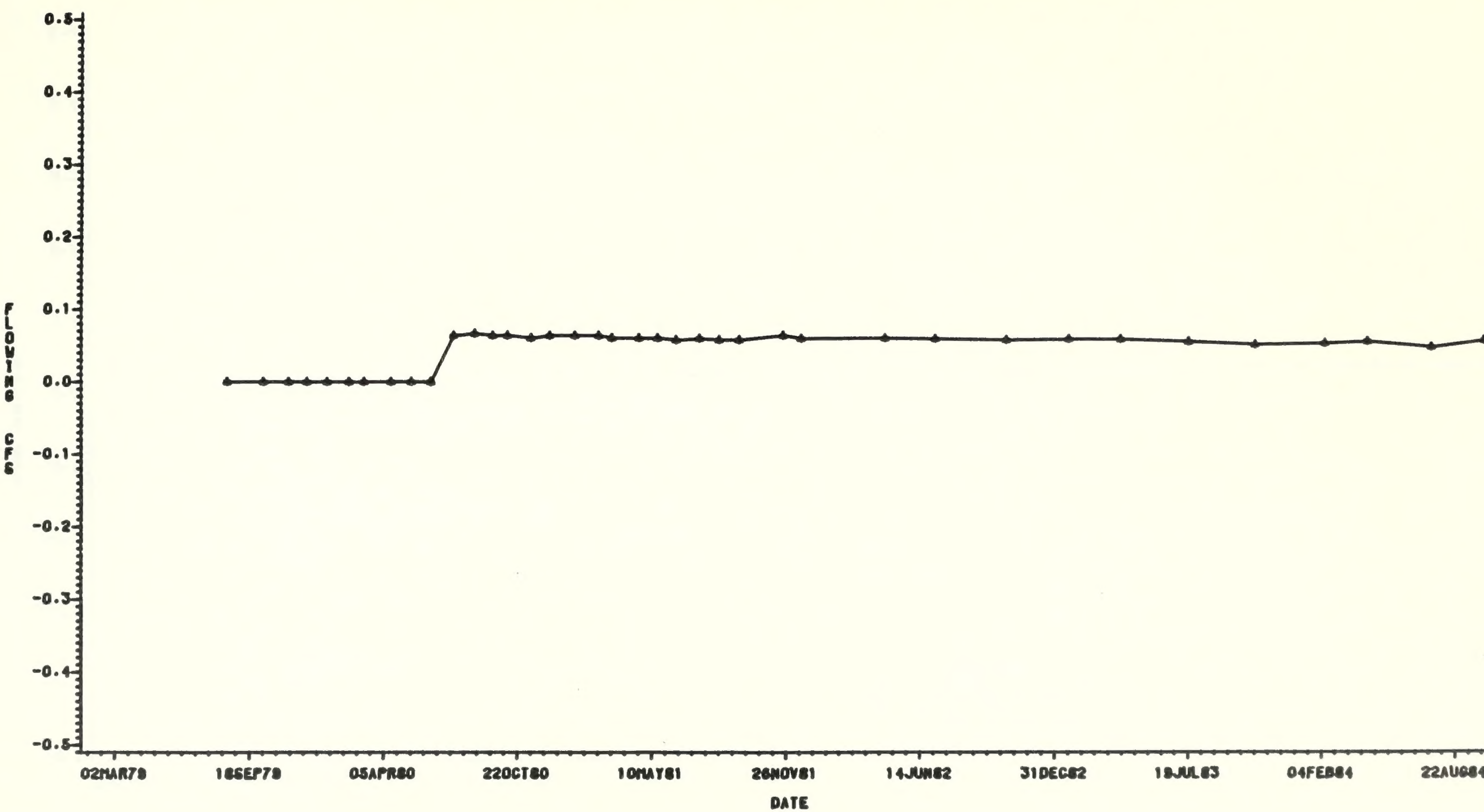
Well No.	Computer Code	Page No.
GREENO 404	WV01	I-187
OLDLAND 3	WV02	I-188
GP-17X-BG	WV03	I-189
BUTE 25	WV04	I-190
LIBERTY BELL 12	WV05	I-191
TG 71-1	WV10	I-192
AT-1A	WV37	I-193

WATER LEVEL PLOTS IN COMPOSITE WELLS
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WV01



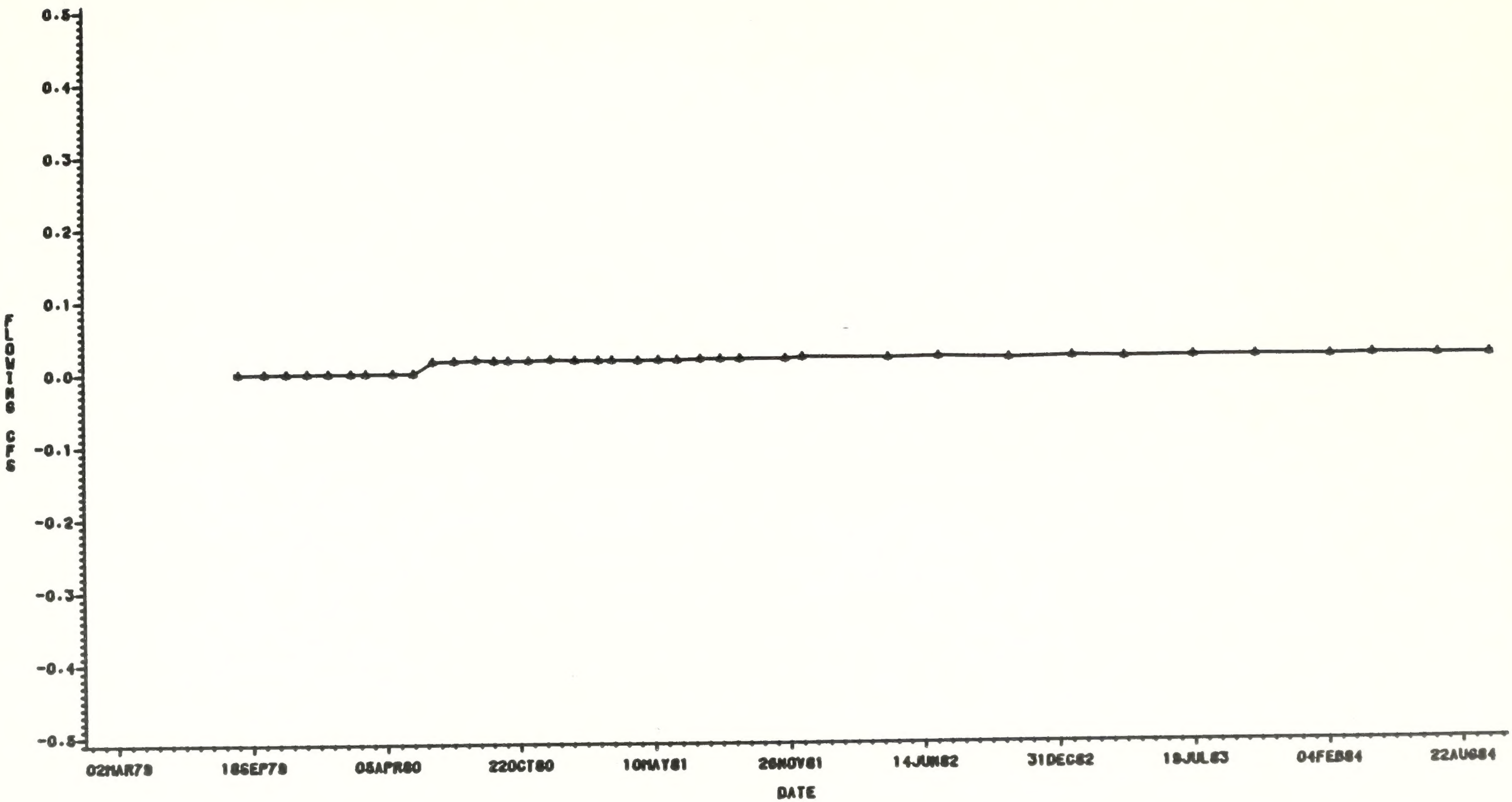
WATER LEVEL PLOTS OF COMPOSITE WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WV02

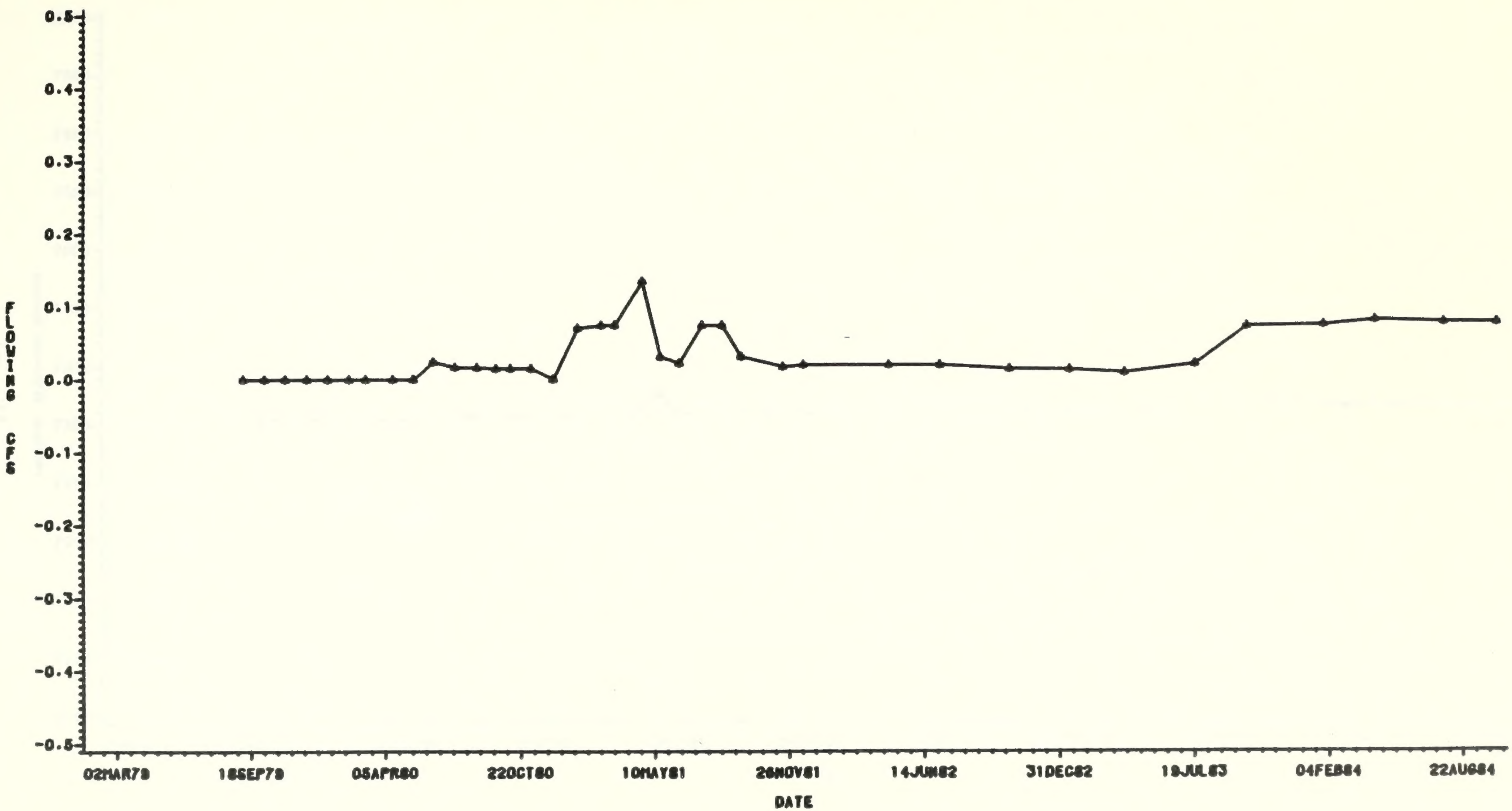


WATER LEVEL PLOTS IN COMPOSITE WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WVO3

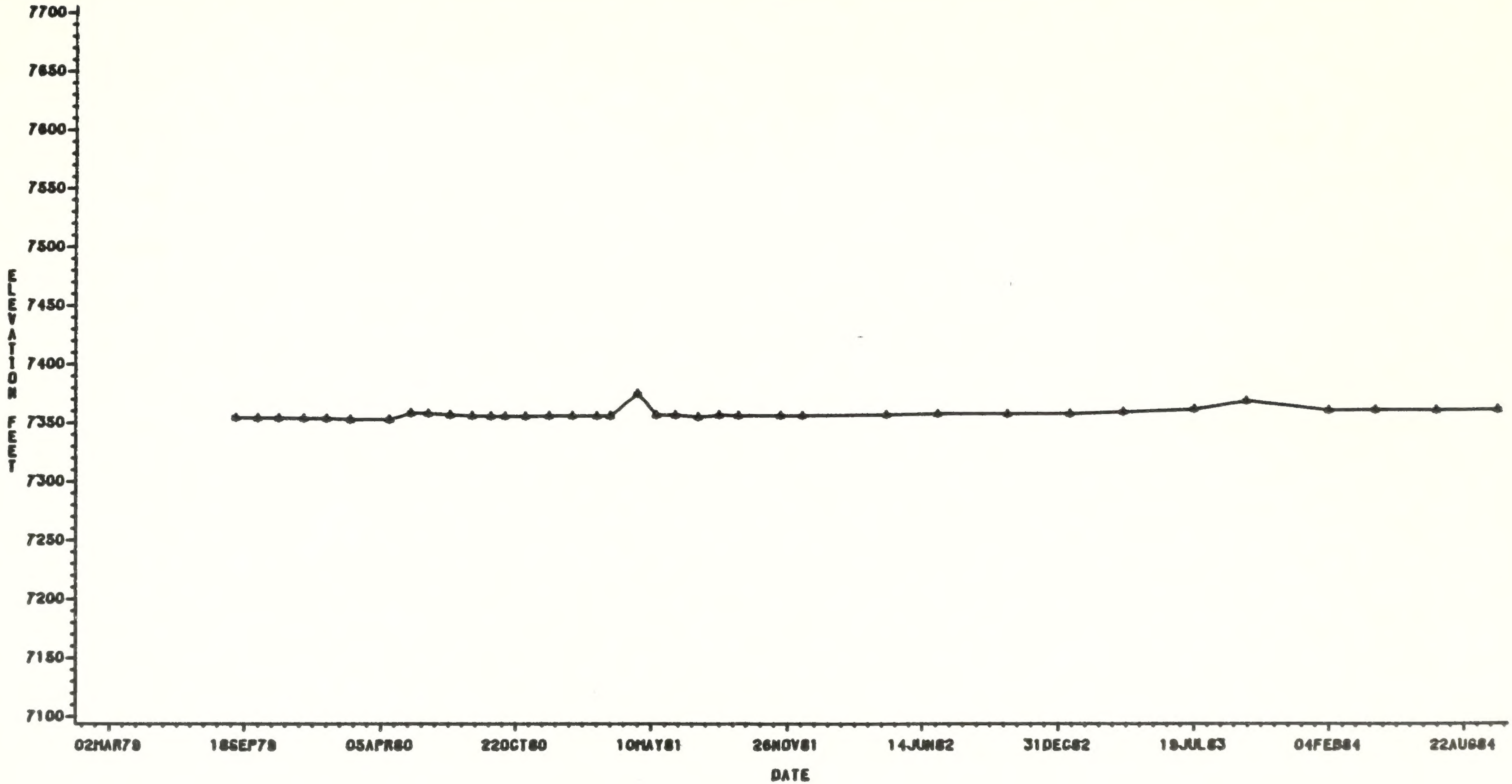


WATER LEVEL PLOTS OF COMPOSITE WELLS
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WV04



WATER LEVEL PLOTS OF COMPOSITE WELLS

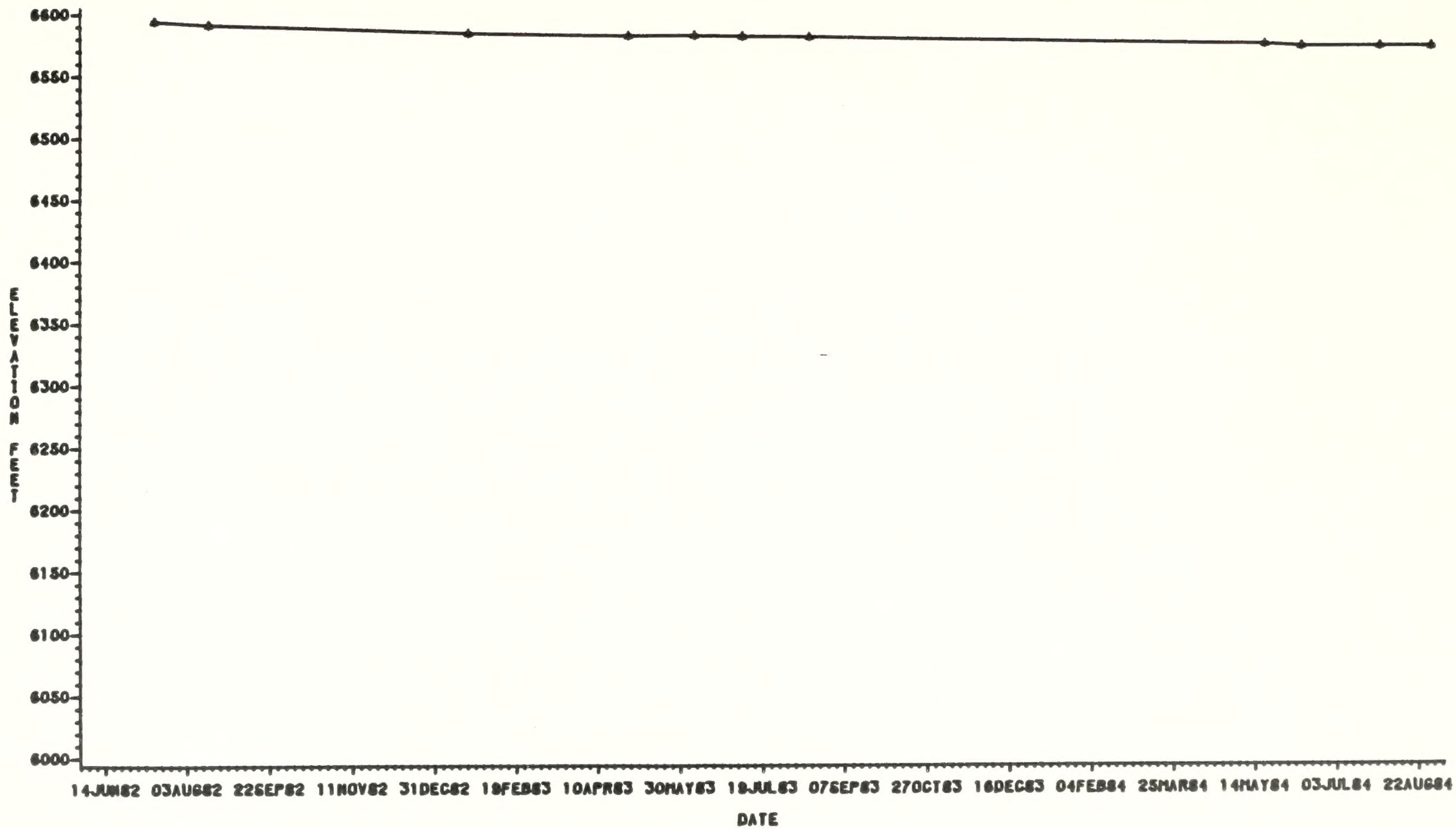
REQUIRED BY WATER AUGMENTATION PLAN
LOC=WV05



WATER LEVEL PLOTS IN COMPOSITE WELLS

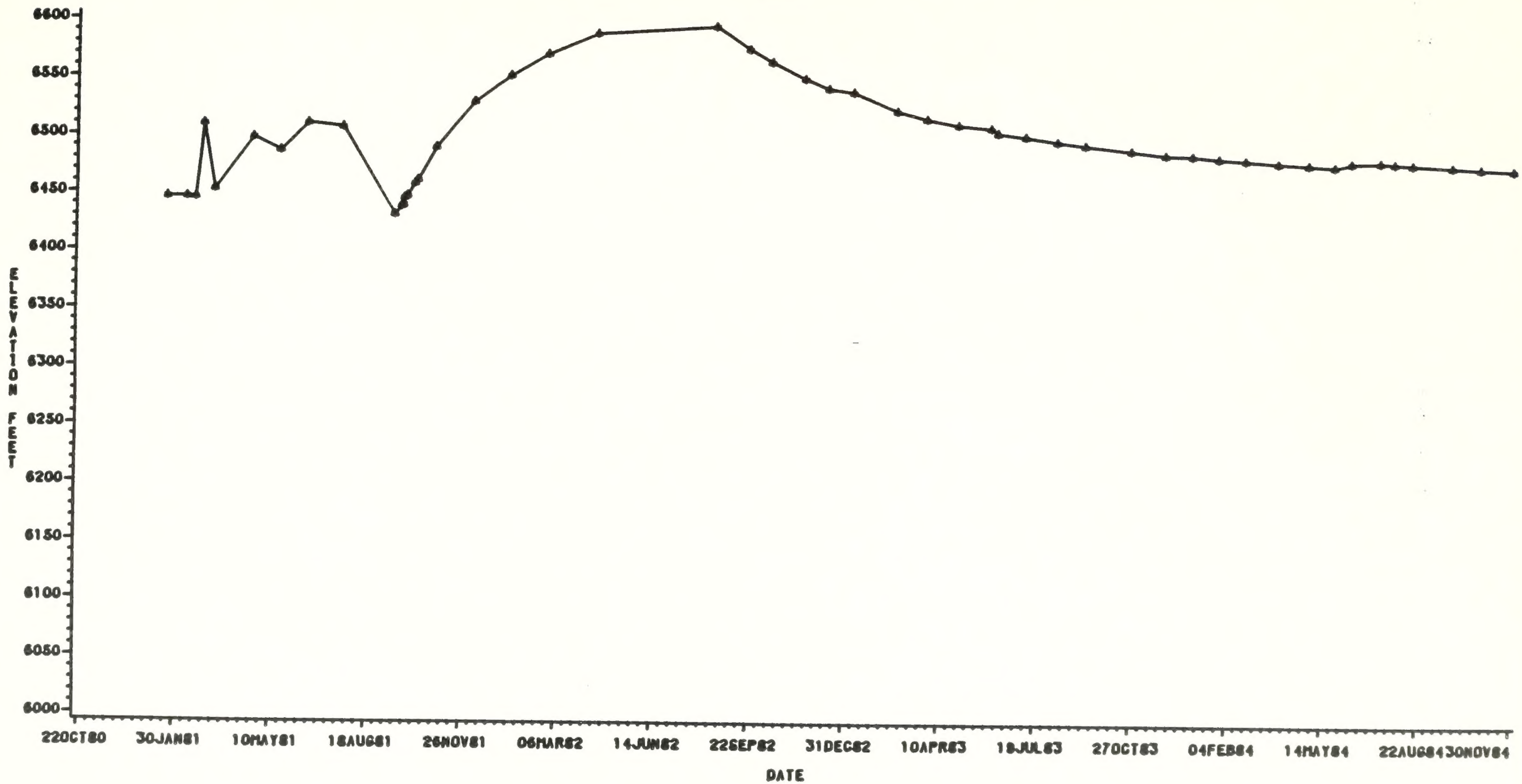
REQUIRED BY WATER AUGMENTATION PLAN

LOC=WV10



WATER LEVEL PLOTS IN COMPOSITE WELLS

REQUIRED BY WATER AUGMENTATION PLAN
LOC=WY37



IMPOUNDMENTS/
LAND APPLICATION/
REINJECTION/DISCHARGE

1.2.1.5 Impoundments/Land Application/Reinjection/ Discharge

Discharging of mine water into Piceance Creek began in July 1979. Water samples for flow and quality analyses were taken at ponds A/B discharge point which is permitted outfall 002. Fluoride samples were taken in the field at A/B discharge point (WN40), above the discharge point on Piceance Creek (WN41), below the discharge point in No Name Gulch (WN42) just prior to confluence at Piceance Creek, and in Piceance Creek at Hunter Creek (USGS Station 061) (WU61). Data are reported for June through November 1984. Refer to Table 1.2.1.5-1 for flow and field measurements. Plots of flow, field fluoride, and specific conductance are presented in Figures 1.2.1.5-1 through 1.2.1.5-3 for A/B discharge (WN40). Water quality analyses are reported in Section 1.2.2.5.

C-b is also permitted for discharges at its runoff control basins which are designated as outfalls 001, 003 - 012. These normally do not overflow (discharge); however, heavy rains on August 1 and 16 caused overflow at the following basins:

Outfall	Code
001	WN51
003	WN53
005	WN55

These discharges are reported in Table 1.2.1.5-1.

Monthly lèvels samples were taken at wells 22X-17 (WI19) and 24X-17 (WI17) during June through November 1984. Data are presented in Table 1.2.1.5-2. These wells are designated as injection wells but have never been utilized as such and have been converted to monitoring wells. Plots of these wells for levels follow the data table in Figures 1.2.1.5-4 and 1.2.1.5-5.

Weekly levels readings were taken at pond seepage wells 41X13 (WW13) and 31X12 (WW22) while monthly levels samples were taken at the shale pile seepage well 32Y12 (WW32) during June through November 1984; see Table 1.2.1.5-3. Plots of the pond seepage wells are reported in Bedrock Well Section 1.2.1.4. Refer to Table 1.2.1.4-14 in that section for the corresponding page number. These wells are monitoring water levels in the UPC_1 zone and are reviewed monthly to detect any changes.

Monthly field samples were taken at Ponds A/B and C seepage monitoring wells (WW13 and WW22) in June through November 1984 while quarterly field samples were collected in June and November 1984 at the leachate shale pile monitoring well (WW32). See data Table 1.2.1.5-4.

Location of water stations presented in this sub-section can be referenced on Figure 1.2-1 (jacket map).

TABLE 1.2.1.5-1

CB-TRACT
NPDES DISCHARGE
DAILY FLOW

LOC	YR	MO	DY	FLOW (CFS)
WN40	84	9	12	.710
			13	.710
			14	.710
			15	.690
			16	.730
			17	.750
			18	.560
			19	.770
			20	.770
			21	.730
			22	.730
			23	.600
			24	.800
			25	.800
			26	.700
			27	.730
			28	.710
			29	.700
			30	.700
		10	1	.750
			2	.700
			3	.710
			4	.760
			5	.730
			6	.730
			7	.730
			8	.610
			9	.450
			10	.290
			11	.280
			12	.450
			13	.500
			14	.710
			15	.740
			16	.700
			17	.690
			18	.680
			19	.700
			20	.700
			21	.730
			22	.690
			23	.690
			24	.710
			25	.740

TABLE 1.2.1.5-1 (Cont'd)

CB-TRACT
NPDES DISCHARGE
DAILY FLOW

LOC	YR	MO	DY	FLOW (CFS)
WN40	84	10	26	.690
			27	.660
			28	.710
			29	.720
			30	.680
			31	.700
		11	1	.700
			2	.700
			3	.620
			4	.670
			5	.670
			6	.630
			7	.710
			8	.730
			9	.710
			10	.640
			11	.670
			12	.710
			13	.680
			14	.680
			15	.650
			16	.650
			17	.650
			18	.690
			19	.680
			20	.680
			21	.710
			22	.670
			23	.670
			24	.690
			25	.720
			26	.710
			27	.670

TABLE 1.2.1.5-1 (Cont'd)

CB-TRACT
NPDES DISCHARGE
WEEKLY FIELD MEASUREMENTS

LOC	YR	MO	DY	FLOW (CFS)	PH UNIT	SPECIFIC CONDUCTIVITY (MG/L)	DISS OXYGEN (MG/L)	FIELD FLUORIDE (MG/L)	TEMPERATURE (DEG C)
WN40	84	6	7	1.2000	8.7	1730.0			12.0
			13	.8260	8.8	2160.0			16.0
			20	.7750	8.8	2220.0			20.0
			27	.7270	8.7	2220.0			22.0
		7	2	.7510	8.7	2210.0		19.6	23.0
			10	.7270	8.7	2060.0		20.2	22.0
			11	.7800	8.8	2090.0			22.0
			18	.7510	8.7	2080.0		20.1	22.0
			25	.7510	8.7	2150.0		19.8	23.0
		8	1	.7270	8.7	2170.0		20.0	22.0
			9	.7030	8.9	2170.0		20.2	22.0
			15	.7750	8.8	2150.0		20.3	18.0
			21	.8790	8.9	2100.0		19.8	20.0
			29	.8790	8.9	2110.0		21.0	23.0
		9	5	.8260	8.9	2190.0		21.2	21.0
			12	.7030	8.9	2130.0		20.1	18.0
			20	.6350	8.8	2170.0		20.6	20.0
			26	.7030	8.9	2110.0		20.8	16.0
		10	3	-.6570				21.6	
			10	-.2300				20.9	
			17	-.5920				20.6	
			24	-.7030				21.1	
			31	.7030	8.9	2120.0			9.0
		11	7	.6350	8.9	2170.0		21.8	8.0
			14	.7030	8.9	2170.0		21.7	11.0
				.7030	8.9	2170.0			11.0
			23	.7030	8.9	2130.0		21.3	10.0
			28	.6800	8.8	2000.0		20.8	9.0
WN41	84	6	7					.6	
			13					.7	
			20					.8	
		7	2					.7	
			9					.6	
			18					.6	
			25					.7	
		8	1					.7	
			9					.7	
			15					.7	
			16		8.4	631.0			19.0
			21					.7	

NOTE: -INDICATES LESS THAN

TABLE 1.2.1.5-1 (Cont'd)

CB-TRACT
NPDES DISCHARGE
WEEKLY FIELD MEASUREMENTS

LOC	YR	MO	DY	FLOW (CFS)	PH UNIT	SPECIFIC CONDUCTIVITY (MG/L)	DISS OXYGEN (MG/L)	FIELD FLUORIDE (MG/L)	TEMPERATURE (DEG C)
WN41	84	8	29					.6	
		9	5					.6	
			12					.6	
			20					.6	
			26					.6	
		10	3					.7	
			10					.7	
			17					.7	
			24					.7	
		11	7					.6	
			14					.7	
			23					.7	
			28					.7	
WN42	84	6	7					.5	
			13					.8	
			20					.8	
		7	2					.8	
			9					.7	
			18					.7	
			25					.7	
		8	1					.7	
			9					.7	
			15					.7	
			21					.7	
			29					.7	
		9	5					.6	
			12					.7	
			20					.7	
			26					.7	
		10	3					.7	
			10					.7	
			17					.7	
			24					.7	
		11	7					.7	
			14					.7	
			23					.8	
			28					.8	
WN51	84	8	1	.1500	8.8	200.0			6.0
			16	-.7300	8.9	162.0			19.0
WN53	84	8	1	.0800	9.2	220.0			10.0

NOTE: -INDICATES LESS THAN

TABLE 1.2.1.5-1 (Cont'd)

CB-TRACT
NPDES DISCHARGE
WEEKLY FIELD MEASUREMENTS

LOC	YR	MO	DY	FLOW (CFS)	PH UNIT	SPECIFIC CONDUCTIVITY (MG/L)	DISS OXYGEN (MG/L)	FIELD FLUORIDE (MG/L)	TEMPERATURE (DEG C)
WN55	84	8	1	.0600	9.1	190.0			17.0
WU61	84	9	5					.6	
			12					.7	
			20					.7	
			26					.7	
		10	3					.7	
			10					.7	
			17					.7	
			24					.7	
		11	7					.7	
			14					.7	
			23					.8	
			28					.8	

NOTE: -INDICATES LESS THAN

C–B TRACT A/B DISCHARGE MONTHLY MEAN FLOW

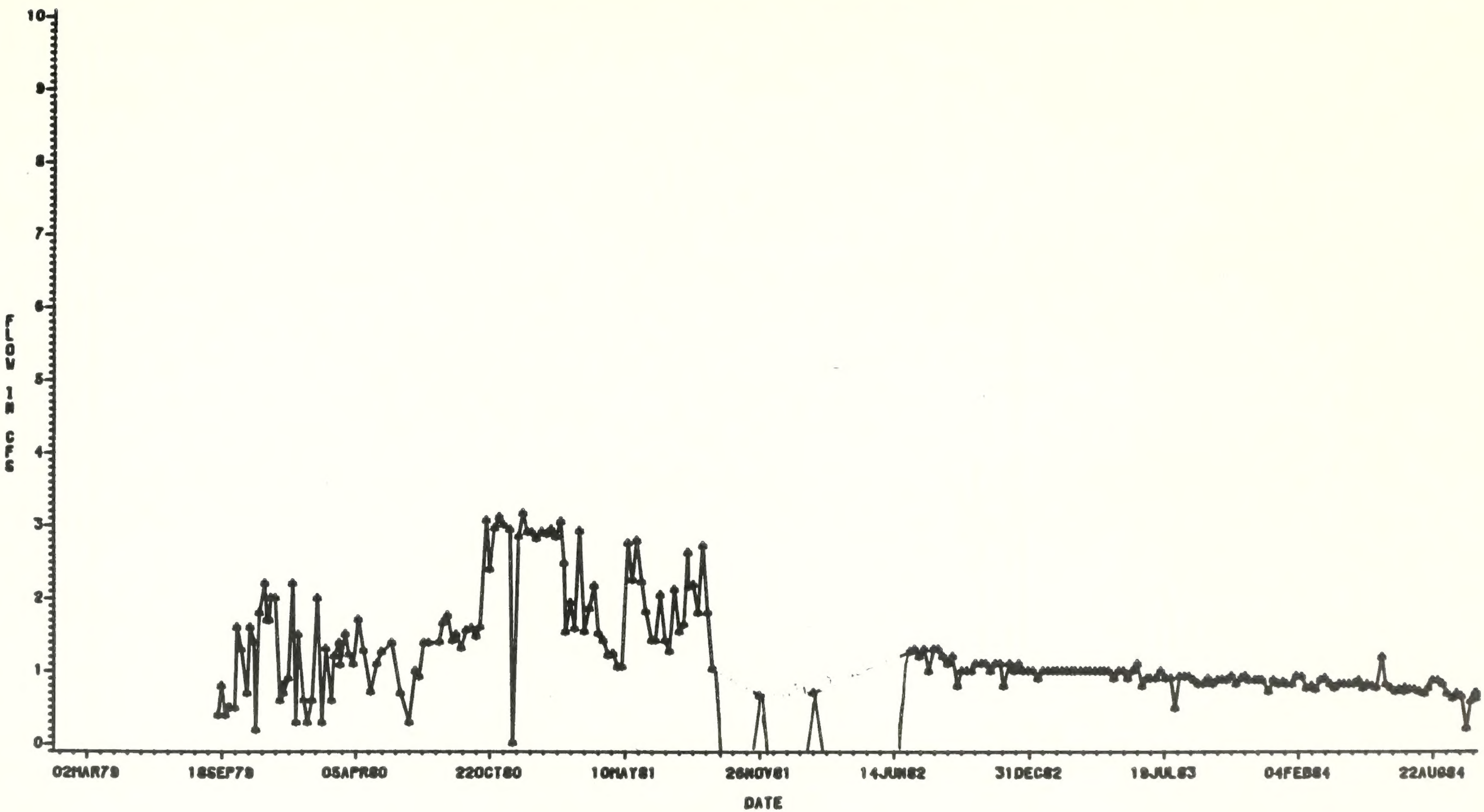


FIGURE 1.2.1.5-1

C-B TRACT A/B DISCHARGE FIELD FLUORIDE CONCENTRATIONS(MG/L)

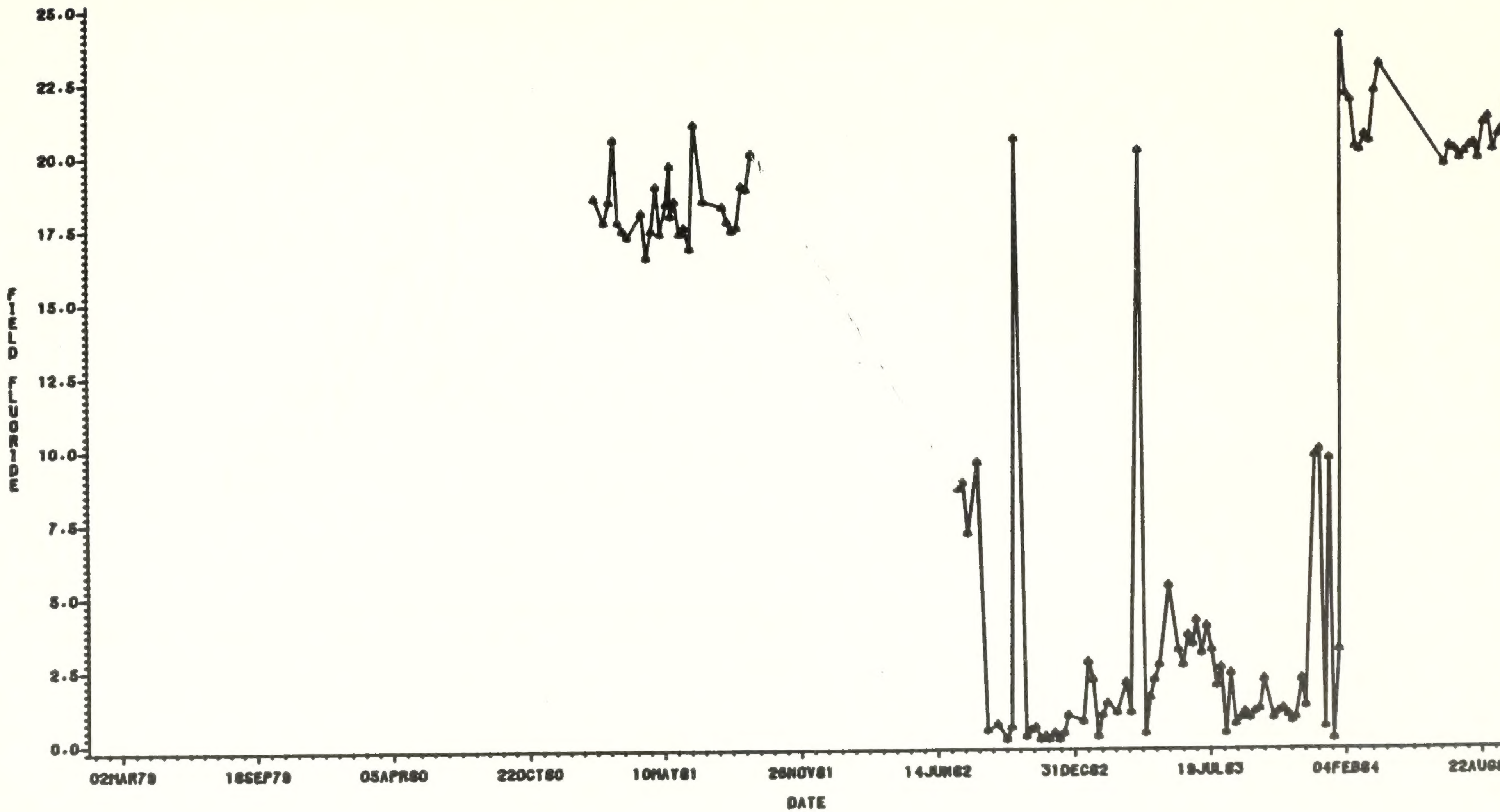


FIGURE 1.2.1.5-2

C–B TRACT A/B DISCHARGE SPECIFIC CONDUCTANCE (UMHOS)

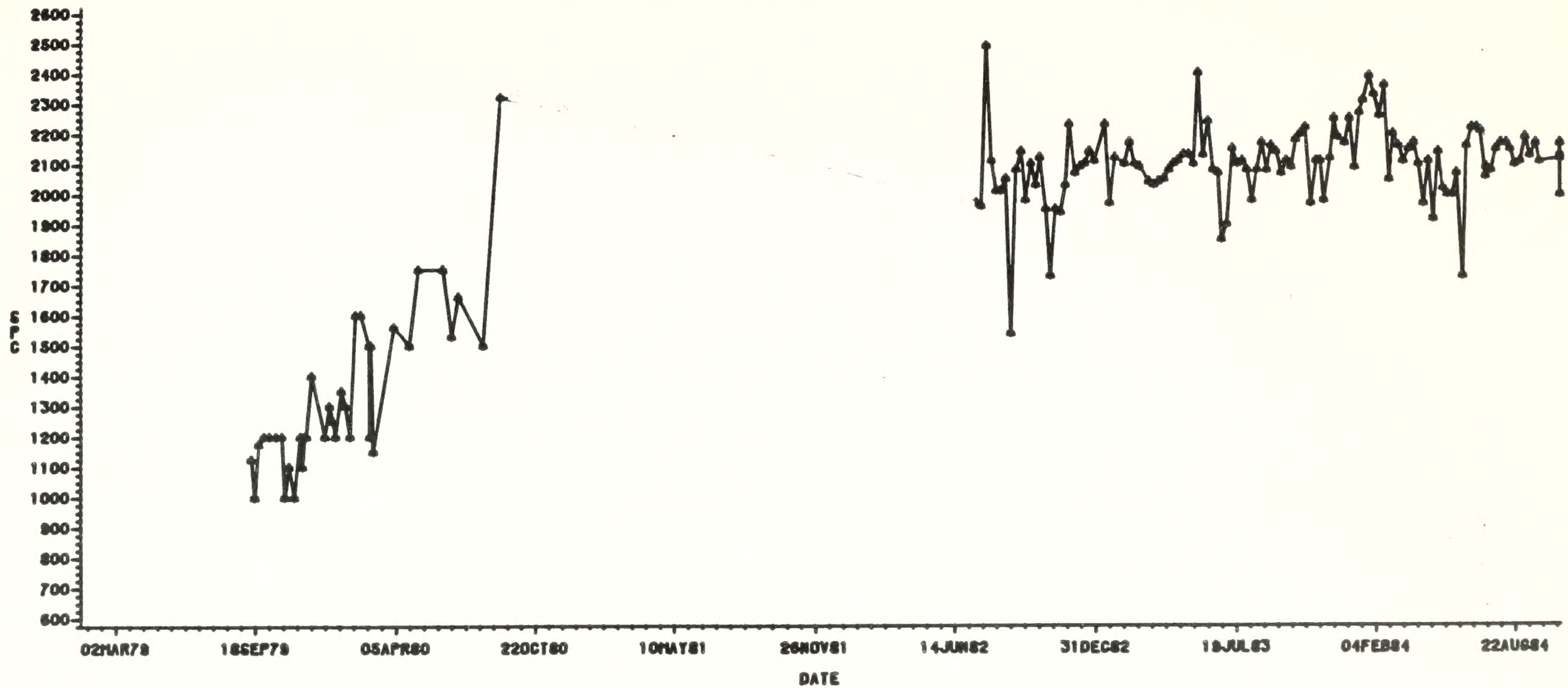


FIGURE 1.2.1.5-3

TABLE 1.2.1.5-2

CB-TRACT
WATER LEVELS FOR INJECTION WELLS
FOR SAMPLE DATE SHOWN

			WELL ID - FT FROM GROUND LEVEL	
			WI17	WI19
			DEPTH	DEPTH
YR	MO	DY	(FT)	(FT)
84	6	13	6624.89	6536.20
	7	19	6624.39	6535.39
	8	27	6624.00	6535.20
	9	27	6623.60	6534.80
	10	25	6623.20	6534.40
	11	29	6623.50	6534.70

PLUGGD = WELL PLUGGED
DRY = WELL DRY
FLWING = WELL FLOWING
INACCS = WELL INACCESSABLE

WATER LEVELS PLOT OF INJECTION WELL

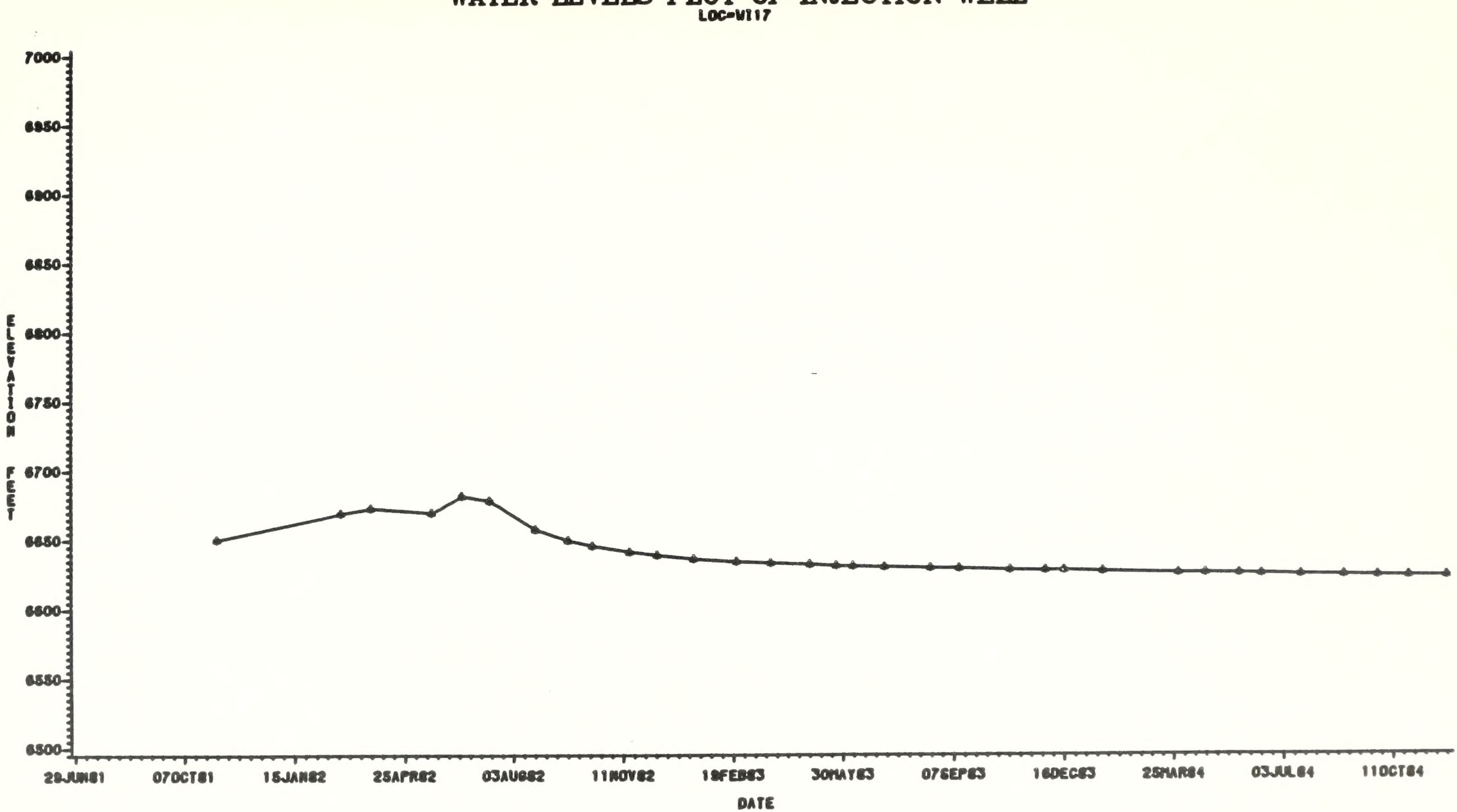


FIGURE 1.2.1.5-4

WATER LEVELS PLOT OF INJECTION WELL

LOC=WI19

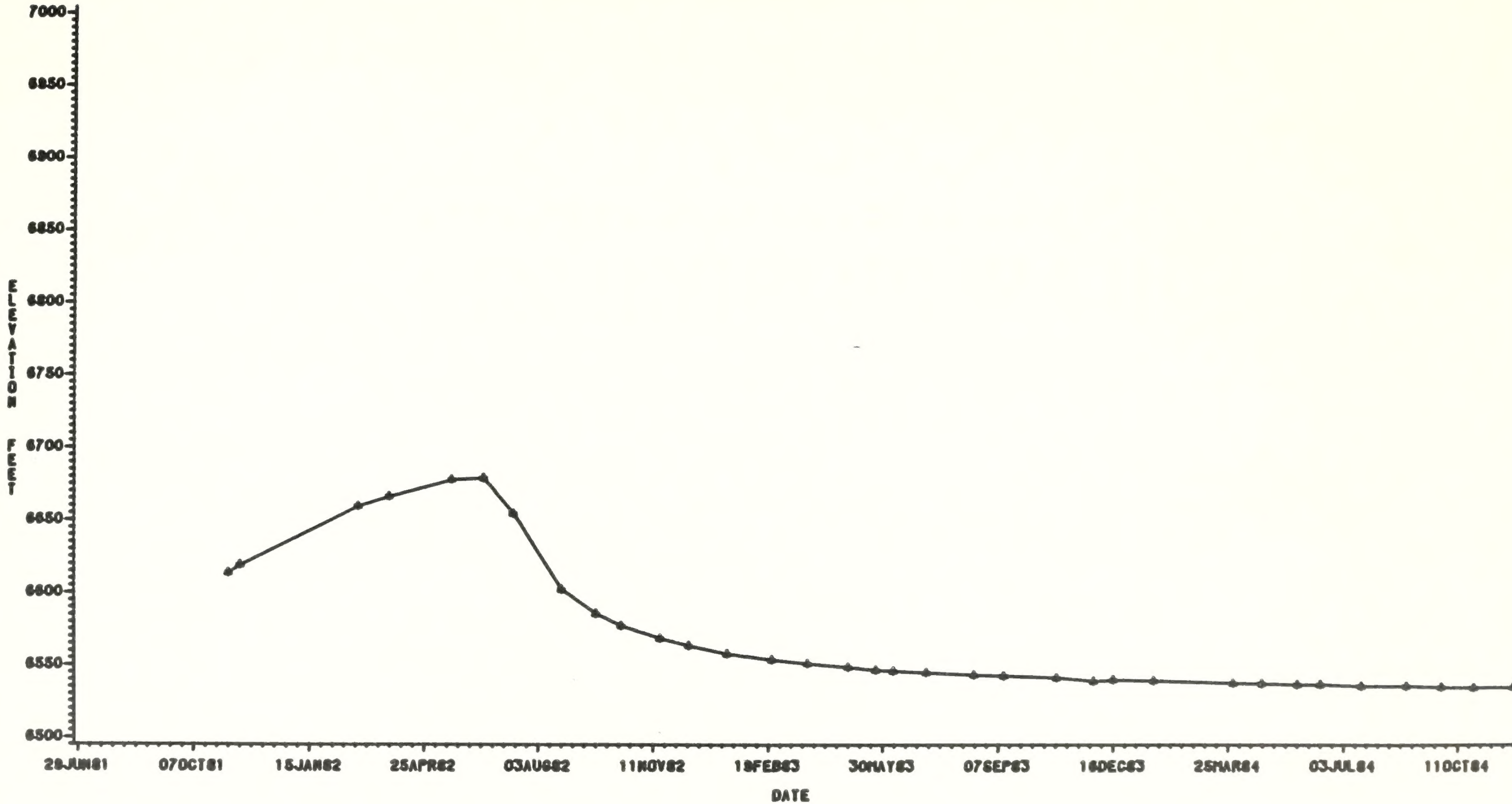


FIGURE 1.2.1.5-5

TABLE 1.2.1.5-3

C-B TRACT
SEEPAGE MONITORING WELLS

YR	MO	DY	WW13 ELEV (FT)	WW22 ELEV (FT)	WW32 ELEV (FT)
84	6	7	6602	6589	
		12		6589	
		18	6601		
		24		6590	
		28	6601	6590	6718
	7	4	6601	6590	
		9	6601	6591	
		17		6592	
		19	6601		
		26	6600	6592	
		31	6600	6590	6717
	8	6	6600	6593	
		14			6716
		16	6600	6594	
		21	6600	6594	
		30	6599	6595	
	9	10	6599	6596	
		17	6599	6596	6716
		26	6599	6596	
	10	3	6599	6597	
		10	6598	6597	
		16	6598	6597	
		22			6716
		25	6598	6597	
	11	7	6598	6598	
		15	6598	6598	
		23	6598	6598	
		29		6599	
		30	6597	6598	6716

TABLE 1.2.1.5-4

C-B TRACT
MONTHLY FIELD MEASUREMENTS
SEEPAGE MONITORING WELLS

WELL	YR	MO	DY	PH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	FIELD FLUORIDE (MG/L)
WW13	84	6	7				
			18	8.2	980.0	11.0	1.3
			28				
		7	4				
			9				
			19				
			26	8.5	868.0	12.0	
			31				
		8	6				
			16				
			21				
			30	8.8	860.0	13.0	1.2
		9	10				
			17	8.4	810.0	12.0	
			26				
		10	3				
			10				
			16				
			25	8.3	850.0	11.0	1.1
		11	7				
			15				
			23				
			30	8.6	840.0	10.0	
WW22	84	6	7				
			12				
			24				
			28	6.6	3180.0	13.0	
		7	4				
			9				
			17				
			26	7.6	3070.0	11.0	
			31				
		8	6				
			16				
			21				
			30	7.2	3050.0	12.0	.3
		9	10				
			17	7.8	2670.0	11.0	
			26				
		10	3				
			10				
			16				

TABLE 1.2.1.5-4 (Cont'd)

C-B TRACT
MONTHLY FIELD MEASUREMENTS
SEEPAGE MONITORING WELLS

WELL	YR	MO	DY	PH (UNITS)	SPECIFIC CONDUCTANCE (UMHOS)	TEMPERATURE (DEG C)	FIELD FLUORIDE (MG/L)
WW22	84	10	25	7.8	2690.0	11.0	.2
		11	7				
			15				
			23				
			29	8.3	2970.0	10.0	
			30				
WW32	84	6	28	7.2	1250.0	12.0	
		7	31				
		8	14				
		9	17	7.7	1150.0	12.0	
		10	22				
		11	30				

SHAFT AND
MINE WATER

1.2.1.6 Shaft and Mine Water

Water levels readings are continuing to be taken weekly since flooding the V/E shaft in September 1981 (Station WZ01). Data for June through November 1984 are included in this section along with a plot of water elevation in the shaft since recovery. See Table 1.2.1.6-1 and Figure 1.2.1.6-1.

A water usage report is submitted to the State Engineer's Office monthly. This report consists of all water used and pumped on the C-b Tract. Table 1.2.1.6-2 reports these waters in gallons coming from the various wells, ponds and shafts for 1984.

TABLE 1.2.1.6-1

CB-TRACT
SHAFT WATER LEVELS

YR	MO	DY	SHAFT WZ01 DEPTH (FT)
84	6	5	6298.0000
		12	6297.6953
		19	6297.7969
		26	6297.7969
	7	3	6298.0977
		9	6298.2969
		17	6298.3945
		24	6298.5000
		30	6298.5977
	8	7	6298.8945
		14	6299.0977
		21	6299.1953
		28	6299.1953
	9	4	6299.1992
		11	6299.5977
		18	6299.1992
		25	6299.3984
	10	2	6299.5977
		9	6299.5977
		16	6299.8984
		23	6299.8984
		30	6300.0000
	11	6	6300.0000
		13	6299.8984
		19	6299.8984
		27	6299.6992

CB WELL LEVELS DATA

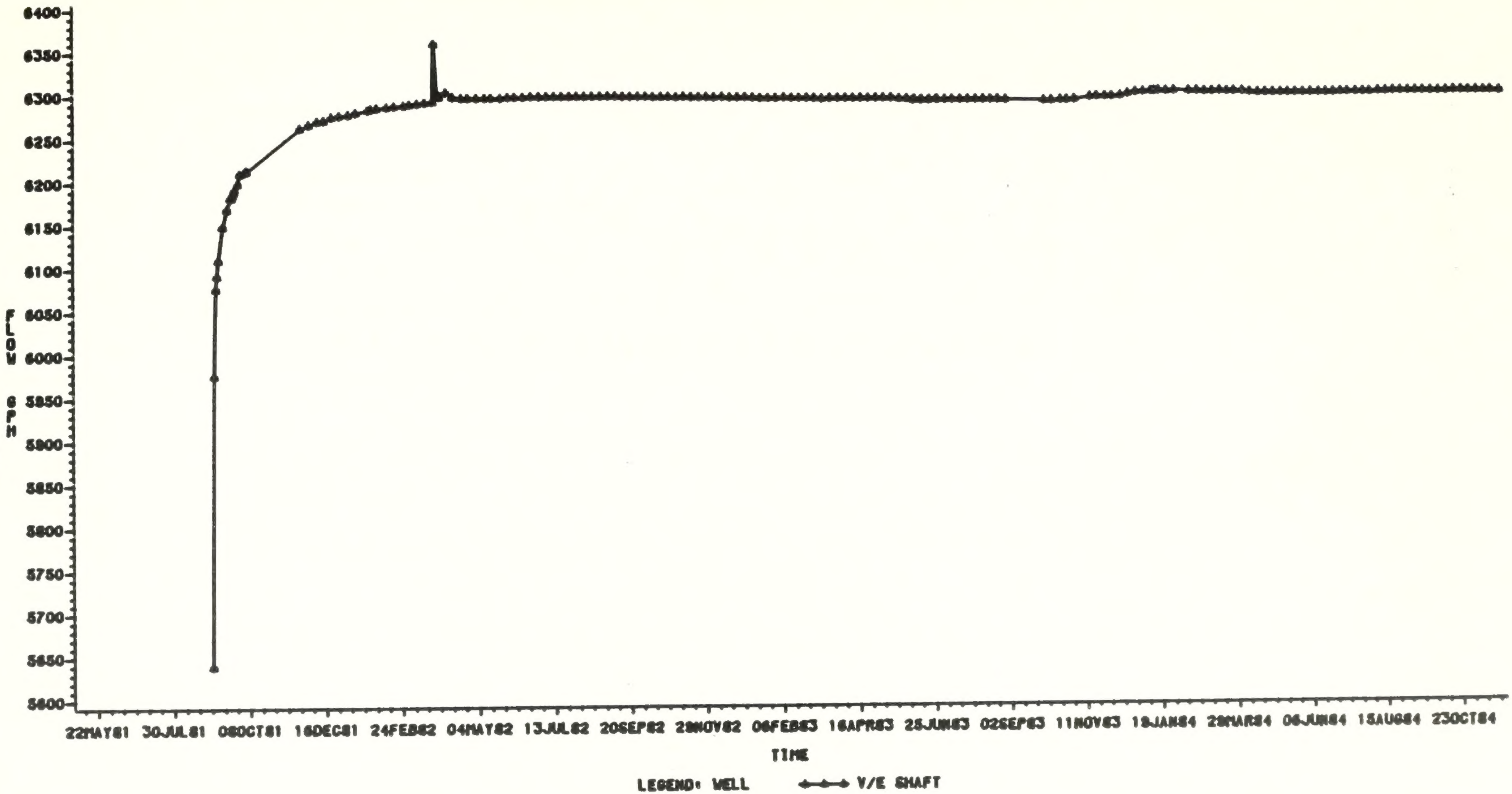


FIGURE 1.2.1.6-1

TABLE 1.2.1.6-2

1984 C-B WATER USAGE (10**6 GALLONS, * ACRE FEET)

	USE	SOURCE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL YTD	TOTAL YRS TD
ALL SHAFTS	GLAND WTR	PUMP STA														190.6
																584.9*
*TOTAL ALL SHAFTS																190.6
																584.9*
OFF-TRACT WTR US	POTABLE	TWN RIFLE														1.3
																4.0*
*TOTAL OFF-TRACT WTR US																1.3
																4.0*
TRACT WATER USED	BATCH PLNT	24X-25														2.4
																7.5*
	CONSTR	PONDS	.01	.01	.01	.01						.01	.01		.06	18.1
			.03*	.03*	.03*	.03*						.03*	.03*		.18*	55.5*
	CONSTR	24X-25					.01	.02	.01	.01	.01				.06	1.8
							.03*	.06*	.03*	.03*	.03*				.18*	5.6*
	DUST CNTL	PONDS					.01	.01							.02	6.7
							.03*	.03*							.06*	20.6*
	EVP & LEAK	POND C														144.8
																444.4*
	NPDES REL	PONDS	16.98	15.50	16.38	15.53	15.78	15.14	14.33	13.80	13.79	13.18	13.11		163.52	1,171.6
			52.10*	47.56*	50.26*	47.65*	48.42*	46.46*	43.97*	42.34*	42.31*	40.44*	40.23*		501.75*	3,595.1*
	REINJECT	PONDS														225.7
																692.6*
	SPR IRRIG	POND C														79.0
																242.5*
*TOTAL TRACT WATER USED			16.99	15.51	16.39	15.54	15.80	15.17	14.34	13.81	13.80	13.19	13.12		163.66	1,650.3
			52.13*	47.59*	50.29*	47.68*	48.48*	46.55*	44.00*	42.37*	42.34*	40.47*	40.26*		502.18*	5,063.8*
WATER IN STORAGE	-	POND A	1.00	1.00	1.00	1.00	1.00					1.50	1.50			
			3.07*	3.07*	3.07*	3.07*	3.07*					4.60*	4.60*			
	-	POND B	.15	.15	.15	.15	.15	.15	.15	1.50	1.50	.70	.70			
			.46*	.46*	.46*	.46*	.46*	.46*	.46*	4.60*	4.60*	2.15*	2.15*			
	-	POND C														
*TOTAL WATER IN STORAGE			1.15	1.15	1.15	1.15	1.15	.15	.15	1.50	1.50	2.20	2.20			
			3.53*	3.53*	3.53*	3.53*	3.53*	.46*	.46*	4.60*	4.60*	6.75*	6.75*			
WATER PUMPED	-	33X-1														4.3
																13.2*
	-	24X-25					.01	.02	.01	.01	.01				.06	8.1
							.03*	.06*	.03*	.03*	.03*				.18*	24.9*
	-	32X-12														5.9
																18.0*
	-	V/E SHAFT														678.9
																2,083.1*
	-	PROD & SERV	17.92	16.53	17.52	16.82	16.92	16.85	17.35	17.14	16.35	16.46	15.60		185.46	1,229.9
			54.99*	50.72*	53.76*	51.61*	51.92*	51.70*	53.24*	52.59*	50.17*	50.51*	47.87*		569.07*	3,773.8*
*TOTAL WATER PUMPED			17.92	16.53	17.52	16.82	16.93	16.87	17.36	17.15	16.36	16.46	15.60		185.52	1,927.0
			54.99*	50.72*	53.76*	51.61*	51.95*	51.76*	53.27*	52.62*	50.20*	50.51*	47.87*		569.25*	5,913.0*

SHALE DUMPS

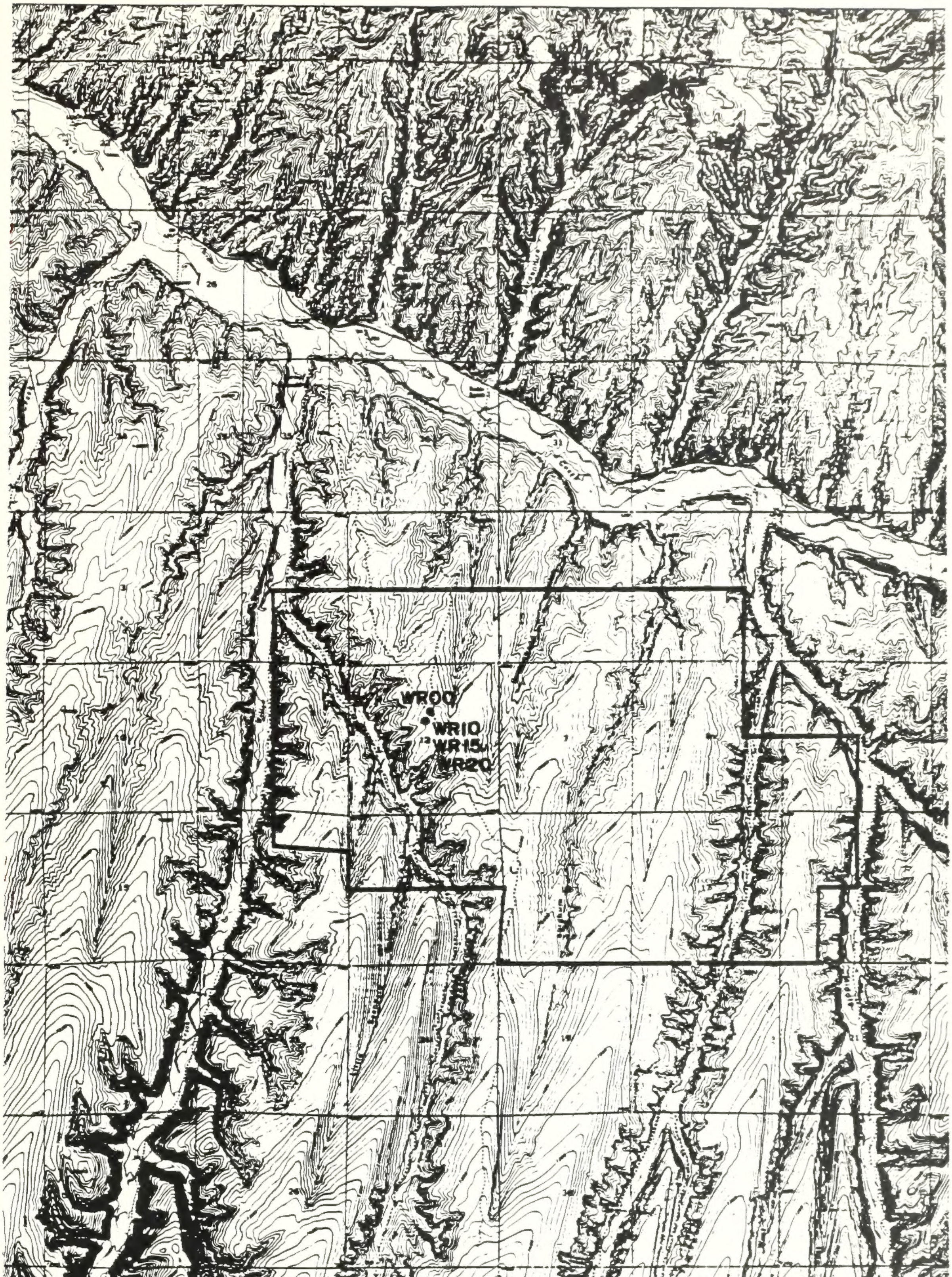
1.2.1.7 Shale Dumps

Locations of the raw and spent shale piles are represented in Figure 1.2.1.7-1 where WR10, WR15 and WR20 is the raw shale pile with leachate levels at 10, 15, and 20 feet depth respectively. WR00 is the spent shale pile location with leachate collected at one level.

Leachate data from the raw shale pile were collected from the lysimeters for April and May 1984. The leachates are initiated from precipitation percolating (leaching) through the raw shale to the collectors. Collector bottles are designated A thru E. Test set up was described in the 1981 C.B. Annual Report.

Field measurement (pH, DO, conductivity and temperature) data are collected at the lysimeters at three depths (Table 1.2.1.7-1). Associated leachate volumes collected are given on Table 1.2.1.7-2. Chemical analyses are analyzed and reported by Colorado State University.

Field measurements of pH, conductivity and temperature at the spent shale demonstration plot were initiated in May 1984 and are presented on Table 1.2.1.7-3.



LOCATIONS OF RAW AND SPENT SHALE PILES

FIGURE 1.2.1.7-1

TABLE 1.2.1.7-1

Raw Shale Lysimeter - CB Lab Analysis. Samples were taken from collection bottles designated 10E, 15A and 20A.

	10E			15A			20A		
DATE	CONDUCTIVITY (mmhos)	TEMP (°C)	pH	CONDUCTIVITY (mmhos)	TEMP (°C)	pH	CONDUCTIVITY (mmhos)	TEMP (°C)	pH
05/04/84	4.32	7	7.73	4.48	11	7.84	6.50	11	7.94
05/07/84	4.38	2	7.83	4.90	2	7.93	6.05	2	8.01
05/09/84	4.97	4	8.03	5.35	5	8.04	7.02	5	8.01
05/11/84	4.98	16	8.14	5.05	21	7.97	6.69	20	7.96
05/14/84	4.78	11	8.11	4.80	14	7.84	6.47	14	7.68
05/16/84	4.91	15	8.06	4.88	18	7.76	6.60	18	7.70
05/21/84	5.15	18	8.08	4.92	20	7.70	6.74	20	7.60
05/29/84	5.45	18	8.27	4.95	23	7.90	6.89	23	7.77
06/01/84	4.58	10	8.07	3.74	10	7.88	2.98	10	7.82
06/04/84	4.51	11	7.92	4.32	10	7.67	4.11	10	7.80
06/18/84	5.19	13	8.09	5.01	14	7.86	6.61	14	7.99
06/22/84	5.39	16	-	5.10	17	-	6.89	17	-
07/17/84	5.82	17	8.09	4.85	17	7.84	6.31	17	7.95
07/27/84	5.91	22	8.12	4.96	22	7.97	7.04	22	8.08
08/02/84	6.07	18	8.26	4.99	17	7.90	6.98	17	8.10
08/09/84	5.85	12	8.28	4.76	12	7.96	6.32	12	8.25
08/14/84	5.24	18	8.27	5.00	20	7.83	6.95	21	8.23
08/20/84	4.46	16	8.00	4.30	16	7.80	3.82	16	8.13
08/21/84	4.12	19	8.12	4.78	19	7.87	2.50	19	8.34
08/22/84	4.51	21	8.02	4.46	23	7.85	4.08	22	8.34
08/23/84	4.81	18	8.20	4.72	17	7.84	4.92	18	8.54
08/31/84	5.05	20	8.25	4.81	22	7.86	5.75	22	8.61
09/26/84	5.30	11	8.23	4.65	11	8.32	6.22	11	8.22
10/22/84	-	-	-	3.39	20	8.19	3.85	20	8.10
10/26/84	-	-	-	4.33	5	8.17	6.02	5	8.19
/01/84	-	-	-	4.04	5	8.20	5.93	5	8.27

CB-TRACT
RAW AND SPENT SHALE PILES

LOC	YR	MO	DY	PH PH UNIT	SPECIFIC CONDUCTANCE (UMHOS/CM)	TEMPERATURE (DEG C)
WR00	84	6	7	7.7	20900.0	10.6
			11	8.1	17700.0	11.6
WR10	84	6	7	7.8	3860.0	11.9
			11	8.0	4740.0	9.3
WR15	84	6	7	7.8	3880.0	11.1
			11	7.9	4530.0	8.6
WR20	84	6	7	7.8	2390.0	9.7
			11	7.9	4630.0	8.5

TABLE 1.2.1.7-2

1984 Raw Shale Lysimeter Volumes (Liters)

DATE	10E	15A	15D	15E	20A	20D	20E	COMMENTS
04/26/84	-	2.0	-	-	2.0	-	-	
04/30/84	11.5	2.0	4.6	-	1.0	19.0	-	
05/02/84	8.0	2.0	X	-	2.0	12.0	0.5	15D Leaking
05/03/84	6.5	2.0	X	-	2.0	7.5	-	15D Still Leaking
05/04/84	8.0*	2.0	13.8	-	2.0	9.5	-	(Leak Fixed) *Overflowing
05/07/84	8.0	2.0	11.4	-	2.0	19.0	-	
05/09/84	4.9	2.0	8.6	-	2.0	11.1	0.8	
05/11/84	3.6	2.0	8.3	1.8	2.0	11.2	-	
05/14/84	2.8	2.0	8.2	-	2.0	12.5	-	
05/16/84	2.0	2.0	4.2	0.7	2.0	7.2	-	
05/21/84	3.7	2.0	9.8	-	2.0	4.2	-	
05/23/84	1.6	2.0	1.8	-	2.0	3.8	-	
05/29/84	5.3	2.0	7.6	-	2.0	11.7	-	
05/31/84	1.6	2.0	0.7	-	2.0	1.7	-	
6/1 (am)	2.2	2.0	13.8	-	2.0	19.0	5.9	
6/1 (pm)	2.4	2.0	2.8	-	1.7	-	-	
06/04/84	8.0*	2.0	20.0*	-	2.0	20.0*	-	*Overflowing
06/05/84	7.5	2.0	9.7	-	2.0	4.8	-	
6/7/84**								**High precip. caused heavy run-
6/8/84**								off which flooded collection shed.
								See note at end of table for est-
								imated flow rates.
6/11 (am)**	8.0*	2.0	20.0*	-	2.0	20.0*	-	*Overflowing **See note at
								end of table.

TABLE 1.2.1.7-2 (Cont'd)

1984 Raw Shale Lysimeter Volumes (Liters)

DATE	10E	15A	15D	15E	20A	20D	20E	COMMENTS
6/11 (pm)	2.8	2.0	2.1	-	2.0	3.2	-	
06/14/84	8.0*	2.0	20.0*	-	2.0	20.0*	-	*Overflowing
06/15/84	5.0	2.0	6.2	-	2.0	10.9	-	
06/18/84	8.0*	2.0	11.5	-	2.0	20.0	-	*Overflowing
06/20/84	5.1	2.0	6.2	-	2.0	12.5	-	
06/22/84	3.4	2.0	3.5	-	2.0	-	-	
06/25/84	5.0	2.0	5.8	-	2.0	12.1	-	
06/29/84	5.0	2.0	5.9	-	2.0	12.0	-	
07/04/84	5.5	2.0	6.4	-	2.0	11.4	-	
07/09/84	4.0	2.0	2.0	-	2.0	7.8	-	
07/17/84	5.0	2.0	8.5	-	2.0	10.5	-	
07/27/84	5.9	2.0	8.1	-	2.0	12.9	-	
08/02/84	3.5	2.0	3.5	-	2.0	16.9	-	
08/09/84	4.3	2.0	1.8	-	2.0	13.6	-	
08/14/84	5.0	2.0	3.7	-	2.0	3.4	-	
08/20/84	8.0*	2.0	20.0*	-	2.0	20.0*	-	*Overflowing
08/21/84	8.0*	2.0	20.0*	-	2.0	20.0*	-	*Overflowing
08/22/84	8.0*	2.0	20.0*	-	2.0	16.4	-	*Overflowing
08/23/84	8.0*	2.0	14.7	-	2.0	10.8	-	*Overflowing
08/24/84	6.3	2.0	9.2	-	2.0	8.4	-	
08/27/84	8.0	2.0	20.0*	-	2.0	20.0	-	*Overflow
08/28/84	3.8	2.0	4.3	-	2.0	7.7	-	
08/31/84	6.8	2.0	10.1	-	2.0	18.2	-	
09/04/84	6.9	2.0	10.3	-	2.0	19.5	-	

TABLE 1.2.1.7-2 (Cont'd)

1984 Raw Shale Lysimeter Volumes (Liters)

DATE	10E	15A	15D	15E	20A	20D	20E	COMMENTS
09/07/84	4.3	2.0	5.9	-	2.0	12.6	-	
09/12/84	5.4	2.0	7.6	-	2.0	12.3	-	
09/17/84	3.9	2.0	5.0	-	2.0	0.3	-	
09/25/84	6.1	2.0	6.9	-	2.0	1.3	-	
09/26/84	1.0	1.2	-	-	1.9	-	-	
10/01/84	3.8	2.0	3.2	-	2.0	5.2	-	
10/05/84	7.2	2.0	6.3	-	2.0	1.2	-	
10/16/84	8.0*	2.0	20.0	-	2.0	20.0	-	*Overflowing
10/17/84	8.0	2.0	9.9	-	2.0	19.0	-	
10/18/84	7.2	2.0	6.0	-	2.0	1.7	-	
10/22/84	8.0*†	2.0	20.0	-	2.0	18.6	-	*Overflowing † Last volume
								taken
10/24/84	-	2.0	7.6	-	2.0	10.1	-	
10/26/84	-	2.0	6.2	-	2.0	3.7	-	
10/30/84	-	2.0	20.0	-	2.0	17.6	-	*Overflow
11/1/84†	-	2.0	10.8	10.7	2.0	10.0	8.5	Last volume † taken

**NOTE: 06/07/84 Lysimeter shed was found flooded. It was pumped out and ran for 1.5 hours and was then dismantled. The following are lysimeter flows for that time period:

Shale Depth (Feet)	10	15	20
Flow (Liters/Hour)	3.87	4.27	14.0

06/08/84 Lysimeter shed was partially flooded. The shed was pumped out and lysimeter assembled and ran for 2.5 hours. The following are flows for that time period:

Shale Depth (Feet)	10	15	20
Flow (Liters/Hour)	1.07	1.73	2.22

The collection system was reassembled at the end of the day.

TABLE 1.2.1.7-2 (Cont'd)

1984 Raw Shale Lysimeter Volumes (Liters)

**NOTE: 06/11/84 The collection system was found full and overflowing when checked in the morning. At that time an estimate of flow rate was made. Those flow rates were:

Shale Depth (Feet)	10	15	20
Flow (Liters/Hour)	0.40	0.59	0.74

TABLE 1.2.1.7-3

Leachate from 1983 Spent Shale Revegetation Demonstration Plot - CB Lab Analysis

DATE	CONDUCTIVITY (mmhos)	TEMP (°C)	pH
05/04/84	24.7	12.0	8.27
05/07/84	25.0	3.0	8.47
05/09/84	29.8	7.0	8.56
05/11/84	30.5	20.0	8.51
05/16/84	31.5	19.0	8.91
05/21/84	34.0	20.3	8.76

SUPPLEMENTAL
WATER DATA

1.2.1.8 Supplemental Water Data - Hydrology

Daily flow readings from Willow and Hunter Creeks for water year 1984 (April - September 1984) are reported in Tables 1.2.1.8-1 and 1.2.1.8-6 respectively.

Water levels data from five Mobil Oil Company monitoring wells are included in this section for June through November 1984. Tabulated data can be referenced in Table 1.2.1.8-7. Time series plots follow this data table for Wells MW01 (Well No. 1), MW02 (Well No. 2), MW03 (Well No. 3), MW12 (Well No. 12), and MW13 (Well No. 13), consecutively; see Figure 1.2.1.8-1. Well locations are shown in Figure 1.2-2.

TABLE 1.2.1.8-1

Discharge In Cubic Feet Per Second — Hunter Creek - Shell Station — Water Year October 1983 to September 1984

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	3.3	3.1	2.4	2.2	2.1	2.5	2.6	2.2	3.9	5.1	3.9
2	4.1	3.3	3.0	2.3	2.1	2.1	2.5	2.5	2.2	3.9	4.5	3.8
3	4.1	3.3	3.0	2.3	2.2	2.1	2.5	2.3	2.1	3.9	4.5	3.8
4	4.1	3.3	3.0	2.3	2.1	2.1	2.5	2.3	2.5	4.1	4.5	3.8
5	3.9	3.3	2.5	2.3	2.1	2.1	2.6	2.3	2.8	3.9	4.5	3.7
6	3.8	3.3	2.5	2.2	2.1	2.1	2.6	2.5	3.1	3.9	4.4	3.7
7	3.8	3.3	2.5	2.2	2.1	2.1	2.6	2.5	3.6	3.9	4.4	3.6
8	3.8	3.6	2.6	2.2	2.1	2.1	2.6	2.4	3.6	4.1	4.4	3.6
9	3.7	3.4	2.6	2.2	2.1	2.1	2.6	2.6	3.6	4.4	4.4	3.4
10	3.7	3.4	2.5	2.2	2.1	2.3	2.8	2.4	2.9	4.2	4.4	3.3
11	3.7	3.3	2.5	2.2	2.2	2.3	2.9	2.5	2.4	4.2	4.3	3.4
12	3.6	3.4	2.5	2.2	2.2	2.3	2.8	2.6	2.5	4.3	4.3	3.4
13	3.7	3.4	2.5	2.2	2.1	2.4	2.9	2.8	2.5	4.3	4.3	3.3
14	3.8	3.3	2.5	2.2	2.1	2.1	2.8	3.0	2.6	4.3	4.3	3.3
15	3.8	3.2	2.5	2.2	2.1	2.8	2.8	3.3	3.0	4.3	4.3	3.3
16	3.7	3.2	2.4	2.2	2.1	2.6	2.8	3.8	3.3	4.3	4.3	3.3
17	3.6	3.2	2.5	2.2	2.2	2.6	2.6	4.1	3.2	4.3	4.3	3.3
18	3.6	3.2	2.5	2.2	2.1	2.5	2.6	4.2	3.2	4.3	4.3	3.2
19	3.6	3.1	2.4	2.2	2.1	2.4	2.6	4.2	3.2	4.3	4.2	3.2
20	3.6	3.2	2.4	2.4	2.1	2.6	2.8	4.2	3.2	4.3	4.2	3.3
21	3.6	3.2	2.4	2.2	2.1	3.2	2.9	4.3	3.2	4.3	4.2	3.3
22	3.4	3.1	2.4	2.2	2.1	2.8	2.8	4.4	3.3	4.3	4.2	3.2
23	3.4	3.0	2.4	2.2	2.1	2.5	2.8	4.3	3.4	4.4	4.2	3.1
24	3.4	3.1	2.4	2.2	2.1	2.6	2.8	4.3	3.4	4.4	4.2	2.9
25	3.4	3.2	2.4	2.2	2.1	2.6	2.8	4.4	3.6	4.4	4.2	2.9
26	3.4	3.1	2.4	2.2	2.1	2.5	3.2	4.4	3.6	4.5	4.2	2.9
27	3.4	3.0	2.4	2.2	2.1	2.5	2.9	4.5	3.7	4.5	4.2	2.9
28	3.4	3.0	2.4	2.2	2.2	2.4	2.6	4.5	3.7	4.5	4.2	1.8
29	3.4	3.0	2.3	2.2	2.1	2.4	2.8	4.2	3.8	4.5	4.1	1.7
30	3.4	3.0	2.3	2.2		2.4	2.8	2.8	3.8	4.5	4.1	1.7
31	3.4		2.3	2.2		2.4		2.2		4.5	3.9	
Total	113.2	96.7	78.1	69.0	61.4	74.1	81.8	103.4	93.2	131.9	133.6	96.0
Ac-ft	224.5	191.8	154.9	136.9	121.8	147.0	162.3	205.1	184.9	261.6	265.0	190.4

COLORADO PRINTING CO. GRAND JUNCTION, COLO

Total SFD 1,132.4
Total Ac.Ft. 2,246.2

JEX-PILAND *Engineers & Geologists*

TABLE 1.2.1.8-2

Stream Hunter Creek - Shell Station

Year 1984

Discharge in Cubic Feet Per Second

	April			May			June		
Day	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.
1	2.5	2.5	2.5	2.6	2.6	2.6	2.2	2.3	2.2
2	2.5	2.5	2.5	2.5	2.6	2.4	2.2	2.2	2.1
3	2.5	2.5	2.5	2.3	2.4	2.3	2.1	2.3	2.1
4	2.5	2.5	2.4	2.3	2.3	2.3	2.5	2.8	2.3
5	2.6	2.9	2.4	2.3	2.4	2.3	2.8	3.1	2.5
6	2.6	2.6	2.5	2.5	3.0	2.3	3.1	3.4	2.9
7	2.6	2.6	2.6	2.5	2.5	2.4	3.6	3.7	3.4
8	2.6	2.6	2.5	2.4	2.5	2.3	3.6	3.6	3.6
9	2.6	2.8	2.6	2.6	2.9	2.4	3.6	3.6	3.6
10	2.8	2.9	2.8	2.4	2.6	2.3	2.9	3.6	2.4
11	2.9	2.9	2.9	2.5	2.6	2.3	2.4	2.6	2.3
12	2.8	2.9	2.6	2.6	2.8	2.6	2.5	2.9	2.5
13	2.9	2.9	2.8	2.8	3.0	2.6	2.5	3.0	2.4
14	2.8	2.8	2.8	3.0	3.1	2.9	2.6	3.1	2.5
15	2.8	2.8	2.8	3.3	3.6	3.1	3.0	3.2	2.8
16	2.8	2.8	2.6	3.8	3.9	3.6	3.3	3.3	3.2
17	2.6	2.6	2.6	4.1	4.1	3.9	3.2	3.3	3.2
18	2.6	2.8	2.6	4.2	4.2	4.1	3.2	3.2	3.2
19	2.6	2.8	2.6	4.2	4.2	4.2	3.2	3.2	3.2
20	2.8	2.8	2.8	4.2	4.2	4.2	3.2	3.2	3.2
21	2.9	2.9	2.8	4.3	4.4	4.2	3.2	3.3	3.2
22	2.8	2.9	2.6	4.4	4.4	4.3	3.3	3.4	3.3
23	2.8	2.9	2.8	4.3	4.3	4.3	3.4	3.4	3.4
24	2.8	2.8	2.8	4.3	4.4	4.3	3.4	3.6	3.4
25	2.8	2.9	2.8	4.4	4.4	4.3	3.6	3.6	3.6
26	3.2	4.1	2.8	4.4	4.5	4.4	3.6	3.7	3.6
27	2.9	3.7	2.8	4.5	4.5	4.5	3.7	3.7	3.7
28	2.6	2.9	2.4	4.5	4.5	4.5	3.7	3.7	3.7
29	2.8	3.0	2.5	4.2	4.5	4.1	3.8	3.8	3.7
30	2.8	2.8	2.6	2.8	4.1	1.9	3.8	3.8	3.8
31				2.2	2.3	2.1			
SFD	81.8			103.4			93.2		
Ac. Ft.	162.3			205.1			184.9		
Mean	2.7			3.3			3.1		
Max.	3.2			4.5			3.8		
Min.	2.5			2.2			2.1		

JEX-PILAND Engineers & Geologists

TABLE 1.2.1.8-3

Stream Hunter Creek - Shell Station

Year 1984

Discharge in Cubic Feet Per Second

	July			August			September		
Day	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.
1	3.9	3.9	3.8	5.1	9.3	4.5	3.9	3.9	3.9
2	3.9	3.9	3.9	4.5	4.5	4.5	3.8	3.9	3.8
3	3.9	4.1	3.9	4.5	4.5	4.5	3.8	3.8	3.8
4	4.1	4.1	3.9	4.5	4.5	4.5	3.8	3.8	3.8
5	3.9	3.9	3.9	4.5	4.5	4.4	3.7	3.8	3.7
6	3.9	3.9	3.9	4.4	4.4	4.4	3.7	3.7	3.6
7	3.9	3.9	3.9	4.4	4.4	4.4	3.6	3.6	3.6
8	4.1	4.3	3.9	4.4	4.4	4.4	3.6	3.6	3.4
9	4.4	13	4.2	4.4	4.4	4.4	3.4	3.4	3.4
10	4.2	4.2	4.2	4.4	4.4	4.3	3.3	3.4	3.3
11	4.2	4.2	4.2	4.3	4.3	4.3	3.4	3.4	3.4
12	4.3	4.3	4.2	4.3	4.3	4.3	3.4	3.4	3.4
13	4.3	4.3	4.3	4.3	4.3	4.3	3.3	3.4	3.3
14	4.3	4.3	4.3	4.3	4.3	4.3	3.3	3.4	3.3
15	4.3	4.3	4.3	4.3	4.4	4.3	3.3	3.3	3.3
16	4.3	4.3	4.3	4.3	4.3	4.3	3.3	3.3	3.3
17	4.3	4.3	4.3	4.3	4.3	4.3	3.3	3.3	3.2
18	4.3	4.3	4.3	4.3	4.3	4.3	3.2	3.2	3.2
19	4.3	4.3	4.3	4.2	4.3	4.2	3.2	3.2	3.2
20	4.3	4.3	4.3	4.2	4.2	4.2	3.3	3.3	3.2
21	4.3	4.3	4.3	4.2	4.2	4.2	3.3	3.3	3.3
22	4.3	4.4	4.3	4.2	4.2	4.2	3.2	3.3	3.2
23	4.4	4.4	4.3	4.2	4.2	4.2	3.1	3.2	3.0
24	4.4	4.4	4.3	4.2	4.2	4.2	2.9	3.0	2.9
25	4.4	4.5	4.4	4.2	4.2	4.2	2.9	2.9	2.9
26	4.5	4.5	4.5	4.2	4.2	4.2	2.9	3.0	2.9
27	4.5	4.5	4.5	4.2	4.2	4.2	2.9	3.0	2.8
28	4.5	4.5	4.5	4.2	4.2	4.1	1.8	2.8	1.2
29	4.5	4.5	4.5	4.1	4.1	4.1	1.7	1.8	1.6
30	4.5	4.5	4.5	4.1	4.1	4.1	1.7	1.7	1.7
31	4.5	4.5	4.5	3.9	4.1	3.9			
SFD	131.9			133.6			96.0		
Ac. Ft.	261.6			265.0			190.4		
Mean	4.3			4.3			3.2		
Max.	4.5			5.1			3.9		
Min.	3.9			3.9			1.7		

COLORADO PRINTING CO. GRAND JUNCTION COLO.

JEX-PILAND ENGINEE & GEOLOGISTS

TABLE 1.2.1.8-4

Discharge In Cubic Feet Per Second — Willow Creek - Shell Station — Water Year October 1983 to September 1984

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	3.6	2.9	2.2	3.0	2.6	3.8	5.7	10	11	9.5	5.5
2	4.3	3.6	2.9	2.1	2.6	2.6	3.9	5.8	8.6	11	9.8	4.8
3	4.2	3.6	2.9	2.2	3.0	2.8	3.9	5.8	8.3	11	8.8	4.7
4	4.2	3.6	2.9	2.3	3.7	3.0	4.1	5.7	9.0	11	9.1	4.4
5	4.2	3.6	2.9	2.3	3.4	3.1	4.1	6.0	11	10	8.8	4.2
6	4.2	3.4	2.9	2.4	3.2	3.3	4.1	6.1	12	9.8	8.8	3.8
7	4.1	3.4	2.9	2.8	3.2	3.3	3.9	6.3	9.8	10	8.5	3.8
8	4.1	3.6	2.9	2.9	3.3	3.3	3.8	6.1	9.1	10	8.0	4.2
9	4.1	3.4	2.9	3.0	2.8	3.4	3.6	6.3	8.8	11	7.7	4.3
10	4.1	3.4	2.9	2.8	3.1	3.4	3.1	6.6	8.3	11	7.5	4.4
11	4.1	3.4	2.9	2.8	3.0	3.4	3.4	7.2	8.5	10	7.3	4.4
12	4.1	3.4	2.8	2.8	3.0	3.4	3.1	7.8	8.5	9.3	6.9	4.3
13	4.1	3.3	2.6	2.9	3.0	3.4	3.3	8.6	8.5	9.1	6.4	4.2
14	4.2	3.4	2.8	3.0	3.0	3.6	3.1	9.3	8.6	9.5	6.1	4.2
15	4.1	3.4	2.8	3.0	2.6	3.6	3.2	9.8	8.6	9.0	6.0	4.1
16	4.1	3.4	2.6	3.0	2.8	3.6	3.2	10	9.0	8.1	5.5	4.4
17	3.9	2.4	2.8	3.0	2.8	3.6	3.3	10	9.1	7.8	3.8	3.9
18	3.9	3.4	2.8	3.0	2.4	3.6	3.9	9.8	9.1	7.2	3.7	3.9
19	3.9	3.4	2.9	3.2	2.1	3.6	4.7	10	9.1	7.8	4.1	4.3
20	3.9	3.4	2.8	3.6	2.3	3.7	4.9	11	9.3	8.3	5.1	4.4
21	3.9	3.3	2.2	4.2	2.1	3.7	4.5	11	9.8	9.3	4.5	4.4
22	3.8	3.3	1.9	3.9	2.5	3.7	4.5	11	9.8	8.8	4.5	4.4
23	3.8	3.2	1.9	3.6	2.1	3.7	4.5	11	9.3	8.1	4.4	4.2
24	3.8	3.2	1.9	3.4	2.1	3.7	4.5	11	9.3	9.1	4.8	4.4
25	3.7	3.2	1.7	2.9	2.4	3.7	5.4	11	10	9.1	5.1	4.2
26	3.7	3.2	1.8	2.2	1.9	3.7	5.5	11	10	8.8	5.3	4.2
27	3.7	3.1	2.0	2.2	2.4	3.7	5.3	10	11	8.8	5.4	4.1
28	3.7	3.0	2.1	2.9	2.5	3.7	5.1	9.3	11	8.1	5.4	3.7
29	3.7	2.9	1.9	2.9	2.6	3.8	5.7	9.5	11	7.7	5.3	3.6
30	3.7	2.9	1.9	2.6		3.8	5.7	9.7	12	8.8	5.4	3.6
31	3.7		1.9	2.8		3.8		10		9.3	5.5	
Total	123.1	100.4	78.0	88.9	78.9	107.3	125.1	268.4	286.4	287.8	197.0	127.0
Ac-ft	244.2	199.1	154.7	176.3	156.5	212.8	248.1	532.4	568.1	570.9	390.8	251.9

COLORADO PRINTING CO GRAND JUNCTION COLO

Total SFD 1868.4
Total Ac.Ft. 3706.0

JEX-PILAND *Engineers & Geologists*

TABLE 1.2.1.8-5

Stream: Willow Creek - Shell Station

Year: 1984

Discharge in Cubic Feet Per Second

	April			May			June		
Day	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.
1	3.8			5.7	6.0	5.4	10	11	9.7
2	3.9			5.8	6.1	5.5	8.6	9.5	8.3
3	3.9			5.8	6.0	5.7	8.3	8.5	8.3
4	4.1			5.7	6.0	5.4	9.0	9.7	8.3
5	4.1			6.0	6.1	5.7	11	13	9.0
6	4.1			6.1	6.3	6.1	12	13	11
7	3.9	4.1	3.8	6.3	6.4	6.1	9.8	10	9.7
8	3.8	3.9	3.7	6.1	6.3	6.0	9.1	9.5	8.3
9	3.6	3.7	3.3	6.3	6.4	6.1	8.8	9.5	8.3
10	3.1	3.4	2.8	6.6	6.9	6.3	8.3	8.5	8.3
11	3.4	3.4	3.3	7.2	7.5	6.9	8.5	8.5	8.5
12	3.1	3.3	2.5	7.8	8.1	7.5	8.5	8.6	8.5
13	3.3	3.3	3.2	8.6	9.0	8.1	8.5	8.6	8.3
14	3.1	3.2	3.0	9.3	9.7	9.0	8.6	8.6	8.6
15	3.2	3.2	3.1	9.8	9.8	9.7	8.6	8.8	8.5
16	3.2	3.3	4.4	10	10	9.7	9.0	9.1	8.8
17	3.3	3.4	3.3	10	11	9.8	9.1	9.1	9.1
18	3.9	4.4	3.4	9.8	10	9.7	9.1	9.1	9.1
19	4.7	4.9	4.4	10	10	10	9.1	9.1	9.1
20	4.9	5.3	4.7	11	11	10	9.3	9.7	8.8
21	4.5	4.7	4.4	11	11	11	9.8	10	9.0
22	4.5	4.7	4.5	11	11	11	9.8	11	8.5
23	4.5	4.7	4.4	11	11	11	9.3	10	8.8
24	4.5	4.7	4.4	11	11	11	9.3	10	8.3
25	5.4	5.7	4.7	11	12	11	10	11	9.1
26	5.5	5.8	5.1	11	11	11	10	11	9.8
27	5.3	6.0	3.4	10	11	9.1	11	11	10
28	5.1	6.0	3.6	9.3	10	8.8	11	11	11
29	5.7	6.0	5.4	9.5	11	8.6	11	11	11
30	5.7	6.0	5.5	9.7	11	8.5	12	15	11
31				10	11	9.0			
SFD	125.1			268.4			286.4		
Ac. Ft.	248.1			532.4			568.1		
Mean	4.17			8.66			9.55		
Max.	5.7			11			12		
Min.	3.1			5.7			8.3		

Note: No max. and min. from April 1 to April 6, 1984 due tc poor quality record.

JEX-PILAND *Engineers & Geologists*

TABLE 1.2.1.8-6

Stream Willow Creek - Shell Station

Year 1984

Discharge in Cubic Feet Per Second

	July			August			September		
Day	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.	Daily Average	Daily Max.	Daily Min.
1	11	12	11	9.5	10	9.1	5.5	6.0	5.1
2	11	11	10	9.8	10	9.5	4.8	5.3	4.5
3	11	11	9.8	8.8	9.0	8.6	4.7	4.7	4.5
4	11	11	10	9.1	9.7	8.6	4.4	4.5	4.2
5	10	11	10	8.8	9.0	8.6	4.2	4.4	3.8
6	9.8	10	9.7	8.8	9.1	8.6	3.8	3.8	3.8
7	10	11	9.7	8.5	8.8	7.8	3.8	3.8	3.8
8	10	11	10	8.0	8.1	7.7	4.2	4.4	3.8
9	11	11	10	7.7	8.0	7.3	4.3	4.4	4.1
10	11	13	10	7.5	7.7	7.3	4.4	4.4	4.4
11	10	11	9.7	7.3	7.5	7.2	4.4	4.5	4.4
12	9.3	9.8	9.1	6.9	7.5	6.1	4.3	4.4	4.2
13	9.1	9.7	8.8	6.4	7.2	6.1	4.2	4.3	4.1
14	9.5	9.8	9.1	6.1	6.1	6.0	4.2	4.3	4.1
15	9.0	9.7	8.5	6.0	6.0	5.8	4.1	4.3	3.7
16	8.1	8.6	7.7	5.5	6.1	4.3	4.4	4.7	4.2
17	7.8	8.1	7.5	3.8	4.3	3.6	3.9	4.2	3.7
18	7.2	7.7	7.0	3.7	3.7	3.7	3.9	4.2	3.8
19	7.8	8.0	7.7	4.1	6.6	3.6	4.3	4.9	3.8
20	8.3	10	7.2	5.1	9.1	4.2	4.4	4.5	4.3
21	9.3	9.8	8.8	4.5	5.3	4.4	4.4	4.7	4.2
22	8.8	9.0	8.6	4.5	4.7	4.3	4.4	4.7	4.2
23	8.1	9.7	7.3	4.4	4.5	4.3	4.2	4.3	4.2
24	9.1	9.8	8.6	4.8	4.9	4.5	4.4	4.3	4.2
25	9.1	10	8.6	5.1	5.1	4.9	4.2	4.3	4.2
26	8.8	9.1	8.6	5.3	5.5	5.1	4.2	4.3	4.2
27	8.8	9.1	8.6	5.4	5.5	5.3	4.1	4.3	3.7
28	8.1	8.8	7.7	5.4	5.5	4.9	3.7	3.8	3.6
29	7.7	8.0	7.0	5.3	5.5	4.7	3.6	3.7	3.6
30	8.8	11	7.2	5.4	5.5	5.3	3.6	3.7	3.6
31	9.3	10	9.1	5.5	5.5	5.4			
SFD	287.8			197.0			127.0		
Ac. Ft.	570.9			390.8			251.9		
Mean	9.3			6.4			4.2		
Max.	11			9.8			5.5		
Min.	7.2			3.7			3.6		

TABLE 1.2.1.8-7

CB-TRACT
MOBIL WELL LEVELS

WELL ID - FT FROM GROUND LEVEL

YR	MO	DY	MW01 DEPTH (FT)	MW02 DEPTH (FT)	MW03 DEPTH (FT)	MW12 DEPTH (FT)	MW13 DEPTH (FT)
84	6	6				6302.0977	6299.8672
	7	11	6300.8242	6147.7969	6250.2969	6302.1953	6300.0156
	8	21				6302.3945	
		22	6300.6797	6147.3945	6250.6953		6299.5000
	9	11	6300.8086	6147.1992	6250.5000	6303.6992	6301.7500
	10	10	6301.1797	6146.7969	6250.3984		
		11				6304.7969	6302.2500
	11	7	6301.3086	6147.0000	6250.5977		
		8				6305.0000	

MOBIL WELL LEVELS

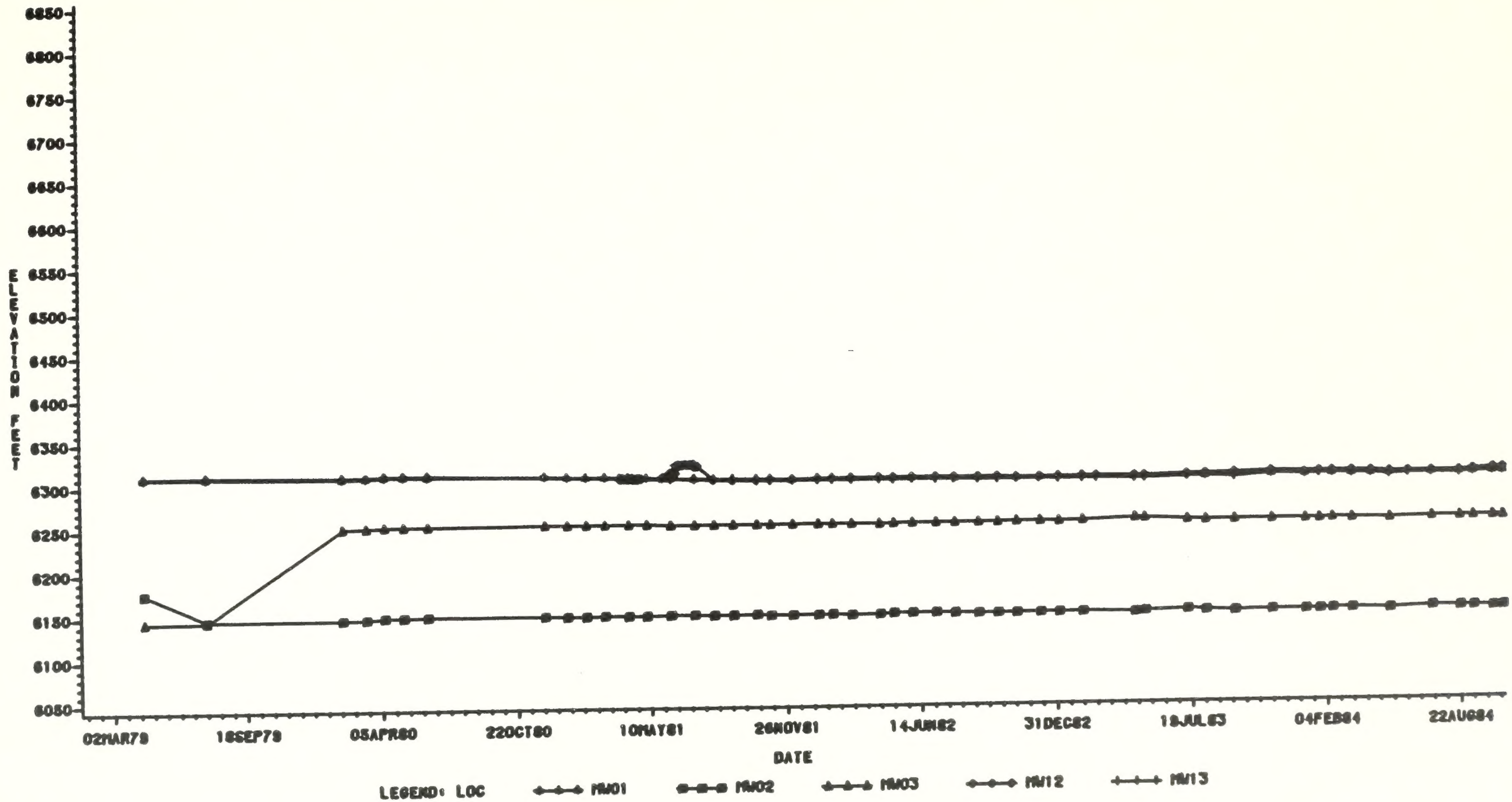


FIGURE 1.2.1.8-1

WATER QUALITY

1.2.2 Water Quality

Water samples taken at USGS surface streams, springs and seeps, alluvial and bedrock wells, seepage wells, discharge points, shafts and shale dumps were analyzed for various variables depending on the monitoring and reporting requirements of these water stations. Data tables are presented in these subsections for water samples taken in June through November 1984

Table 1.2-1 contains water monitoring requirements by station designation including sampling frequencies of levels and flows and water quality. Within each subsection the required frequency is explained and parameters listed for analyses during the Interim Monitoring Program (IMP). Table 1.2-2 lists an index of deep wells sampled in and around the C-b Tract with associated page numbers locating levels data, time series, plots of levels, and water quality for each well by aquifer or zone and location.

SURFACE
STREAMS

1.2.2.1 Surface Streams

Water samples were collected from eight USGS stream gaging stations along Piceance Creek. Refer to Figure 1.2.1.1-1 in Surface Streams subsection of the Levels and Flows Section 1.2.1 for station locations. Field data reported in this section are for 1984 water year. Lab analyses for water samples of 1984 water year (October 1983 - September 1984) are included in this section. Table 1.2.2.1-1 describes parameters sampled with corresponding page number of data tables for 12 gaging stations. Only eight of these are required during the Interim Monitoring Program: 007, 022, 036, 039, 042, 052, 058 and 061.

Remark codes used in the data tables are defined in Table 1.2.2.1-2.

TABLE 1.2.2.1-1

USGS GAGING STATION SURFACE WATER DATA

Stations	Daily Discharge (Flow)	Daily Mean Sediment & Discharge Data	Daily Dissolved Oxygen	Daily pH Readings	Daily Specific Conductance	Daily Temperature	Water Quality Data
09304800 (WU48)	NO DATA			I-238	I-238	I-238	I-235
09306007*(WU07)	I-19	I-16		I-243	I-243	I-243	I-240, I-299
09306022 (WU22)	I-20			I-248	I-248	I-248	I-245
09306036 (WU36)	I-21						
09306039 (WU39)	I-22						
09306042*(WU42)	I-26	I-23		I-253	I-253	I-253	I-250, I-299
09306058 (WU58)	I-27			I-258	I-258	I-258	I-255
09306061*(WU61)	I-31	I-28		I-263	I-263	I-263	I-260, I-299
09306200 (WU00)	I-32			NO DATA	NO DATA	I-268	I-265
09306222 (WU62)				I-273	I-273	I-273	I-270
09306045 (WU45)**							

* Major Station

Data were not available in WATSTOR data base for gaging stations showing blanks in parameter columns.

** Starting in water year 1985

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09304800 - WHITE RIVER BELOW MEEKER, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKALINITY FIELD (MG/L AS CACO3) (00410)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BICARBONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	BORON, DISSOLVED (UG/L AS B) (01020)	BROMIDE DISSOLVED (MG/L AS BR) (71870)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	CARBONATE FET-FLD (MG/L AS CO3) (00445)
DEC , 1983												
07...	--	--	.020	--	--	--	--	20	--	--	67	--
JUL , 1984												
20...	--	--	.040	--	--	--	--	20	--	--	55	--
SEP												
10...	--	--	.030	<1	35	--	--	30	--	<1	60	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09304800 - WHITE RIVER BELOW MEEKER, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
DEC , 1983											
07...	--	8.9	--	--	--	--	--	--	.10	--	--
JUL , 1984											
20...	--	7.0	--	--	--	--	--	--	.20	--	--
SEP											
10...	--	7.3	<10	--	--	<1	--	--	.20	14	<1

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
DEC , 1983											
07...	--	18	--	--	--	--	--	--	--	--	--
JUL , 1984											
20...	--	17	--	--	--	--	--	--	--	--	--
SEP											
10...	--	20	14	<.1	--	<1	--	--	--	--	--

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR- DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI- ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX- APHENE, TOTAL (UG/L) (39400)
DEC , 1983											
07...	--	--	--	--	--	--	--	--	--	--	--
JUL , 1984											
20...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09304800 - WHITE RIVER BELOW MEEKER, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SULFIDE DISSOLVED (MG/L AS S) (00746)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)
DEC , 1983											
07...	1.2	--	15	17	--	640	120	--	--	--	--
JUL , 1984											
20...	1.5	--	15	13	--	480	95	--	--	--	--
SEP											
10...	1.7	3	15	16	--	600	120	--	5	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09304800 - WHITE RIVER BELOW MEEKER, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
DEC , 1983											
07...	--	--	--	--	--	--	--	--	--	--	--
JUL , 1984											
20...	--	--	--	--	--	--	--	--	--	--	--
SEP											
10...	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA

DATE	ALKALINITY FIELD (MG/L AS CACO3) (00410)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	ARSENIC DISSOLVED (UG/L AS AS) (01000)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BICARBONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIOCHEMICAL, 5 DAY (MG/L) (00310)	BORON, DISSOLVED (UG/L AS B) (01020)	BROMIDE DISSOLVED (MG/L AS BR) (71870)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	CARBONATE FET-FLD (MG/L AS CO3) (00445)
NOV , 1983												
09...	--	<10	.060	2	110	--	--	180	<.010	<1	72	--
09...	--	--	--	--	--	--	--	--	--	--	--	--
APR , 1984												
06...	--	--	.080	2	--	--	--	150	--	--	78	--
MAY												
24...	--	20	.030	2	110	--	--	80	.160	<1	70	--
JUN												
20...	--	--	.040	2	--	--	--	110	--	--	78	--
JUL												
25...	--	--	.100	3	--	--	--	140	--	--	75	--
SEP												
12...	--	--	.040	2	--	--	--	170	--	--	73	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306007 - PICEANCE CREEK BELOW RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV , 1983											
09...	27	17	<10	--	--	4	--	--	.80	6	2
09...	--	--	--	--	100	--	--	--	--	--	--
APR , 1984											
06...	--	18	--	--	--	--	--	--	.70	10	--
MAY											
24...	74	15	<10	--	K930	5	--	--	.40	7	<1
JUN											
20...	--	13	--	--	--	--	--	--	.80	7	--
JUL											
25...	--	15	--	--	--	--	--	--	.60	20	--
SEP											
12...	--	15	--	--	--	--	--	--	.80	5	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306007 - PICEANCE CREEK BELOW RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
NOV , 1983											
09...	24	45	42	<.1	--	6	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
APR , 1984											
06...	--	45	29	--	--	--	--	--	--	--	--
MAY											
24...	26	36	12	<.1	--	8	--	--	--	--	--
JUN											
20...	--	45	13	--	--	--	--	--	--	--	--
JUL											
25...	--	45	17	--	--	--	--	--	--	--	--
SEP											
12...	--	48	21	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306007 - PICEANCE CREEK BELOW RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
NOV , 1983											
09...	--	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--	--
APR , 1984											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
24...	--	--	--	--	--	--	--	--	--	--	--
JUN											
20...	--	--	--	--	--	--	--	--	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306007 - PICEANCE CREEK BELOW RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
NOV , 1983											
09...	--	--	--	--	--	--	--	--	--	--	8
09...	--	--	--	--	--	--	--	--	--	--	--
APR , 1984											
06...	--	--	--	--	--	--	--	--	--	--	<1
MAY											
24...	--	--	--	--	--	--	--	--	--	--	<1
JUN											
20...	--	--	--	--	--	--	--	--	--	--	<1
JUL											
25...	--	--	--	--	--	--	--	--	--	--	1
SEP											
12...	--	--	--	--	--	--	--	--	--	--	1

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306007 - PICEANCE CREEK BELOW RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	SULFIDE DIS- SOLVED (MG/L AS S) (00746)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)
NOV , 1983											
09...	2.5	2	14	110	--	1400	200	--	4	1.2	<10
09...	--	--	--	--	--	--	--	--	--	--	--
APR , 1984											
06...	2.6	--	13	120	--	1100	220	--	--	--	--
MAY											
24...	2.7	5	14	68	--	910	180	--	6	--	<7.8
JUN											
20...	2.1	--	15	85	--	1200	210	--	--	--	--
JUL											
25...	3.7	--	14	100	--	1200	220	--	--	--	--
SEP											
12...	2.3	--	15	100	--	1400	220	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306022 - STEWART GULCH AB WEST FORK NR RIO BLANCO, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICAR-BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CAR-BONATE FET-FLD (MG/L AS CO3) (00445)
NOV , 1983												
10...	--	10	.050	1	51	--	--	80	<.010	<1	86	--
APR , 1984												
06...	--	--	.050	<1	--	--	--	80	--	--	91	--
MAY												
23...	--	<10	.040	<1	49	--	--	80	.020	<1	86	--
JUN												
21...	--	--	.030	2	--	--	--	80	--	--	90	--
JUL												
25...	--	--	.020	1	--	--	--	80	--	--	84	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306022 - STEWART GULCH AB WEST FORK NR RIO BLANCO, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV , 1983											
10...	12	7.1	<10	--	--	1	--	--	.30	6	<1
APR , 1984											
06...	--	7.3	--	--	--	--	--	--	.20	8	--
MAY											
23...	13	7.4	<10	--	--	3	--	--	.20	5	<1
JUN											
21...	--	8.6	--	--	--	--	--	--	.30	5	--
JUL											
25...	--	7.7	--	--	--	--	--	--	.30	5	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306022 - STEWART GULCH AB WEST FORK NR RIO BLANCO, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS- SOLVED (MG/L AS C) (00682)	CARBON, INOR- GANIC, DIS- SOLVED (MG/L AS C) (00691)
NOV , 1983											
10...	30	73	2	<.1	--	<2	--	--	--	--	--
APR , 1984											
06...	--	70	13	--	--	--	--	--	--	--	--
MAY											
23...	21	68	12	<.1	--	3	--	--	--	--	--
JUN											
21...	--	73	7	--	--	--	--	--	--	--	--
JUL											
25...	--	72	13	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306022 - STEWART GULCH AB WEST FORK NR RIO BLANCO, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
NOV , 1983											
10...	--	--	--	--	--	--	--	--	--	--	--
APR , 1984											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306022 - STEWART GULCH AB WEST FORK NR RIO BLANCO, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
NOV , 1983											
10...	--	--	--	--	--	--	--	--	--	--	4
APR , 1984											
06...	--	--	--	--	--	--	--	--	--	--	<1
MAY											
23...	--	--	--	--	--	--	--	--	--	--	<1
JUN											
21...	--	--	--	--	--	--	--	--	--	--	<1
JUL											
25...	--	--	--	--	--	--	--	--	--	--	1

WATER QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SULFIDE DISSOLVED (MG/L AS S) (00746)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)
NOV , 1983											
10...	1.4	1	14	120	--	2700	340	--	4	--	<12
APR , 1984											
06...	1.2	--	14	120	--	2700	350	--	--	--	--
MAY											
23...	1.2	<1	15	120	--	2600	360	--	19	--	<11
JUN											
21...	1.1	--	15	130	--	2800	370	--	--	--	--
JUL											
25...	1.7	--	15	130	--	--	340	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306036 - SORGHUM GULCH AT MOUTH, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICAR-BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CAR-BONATE FET-FLD (MG/L AS CO3) (00445)
MAY , 1984												
31...	--	30	.190	2	110	--	--	40	<.010	<1	33	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306036 - SORGHUM GULCH AT MOUTH, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	STREP- TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
MAY , 1984											
31...	410	9.2	10	--	--	7	--	--	.20	52	<1

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306036 - SORGHUM GULCH AT MOUTH, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS- SOLVED (MG/L AS C) (00682)	CARBON, INOR- GANIC, DIS- SOLVED (MG/L AS C) (00691)
MAY , 1984											
31...	10	7.7	240	<.1	--	3	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306036 - SORGHUM GULCH AT MOUTH, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
MAY , 1984											
31...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306036 - SORGHUM GULCH AT MOUTH, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
MAY , 1984											
31...	--	--	--	--	--	--	--	--	--	--	11

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306036 - SORGHUM GULCH AT MOUTH, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SULFIDE DIS-SOLVED (MG/L AS S) (00746)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)
MAY , 1984											
31...	2.0	<1	6.8	38	--	550	96	--	9	--	8.9

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306039 - COTTONWOOD GULCH NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKALINITY FIELD (MG/L AS CACO3) (00410)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICARBONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEMICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CARBONATE FET-FLD (MG/L AS CO3) (00445)
MAY , 1984												
31...	--	70	.150	2	100	--	--	30	<.010	<1	30	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306039 - COTTONWOOD GULCH NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY , 1984											
31...	730	7.1	10	--	--	37	--	--	.20	71	5

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306039 - COTTONWOOD GULCH NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L) (38260)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS- SOLVED (MG/L AS C) (00682)	CARBON, INOR- GANIC, DIS- SOLVED (MG/L AS C) (00691)
MAY , 1984											
31...	9	9.9	9	<.1	--	4	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306039 - COTTONWOOD GULCH NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
MAY , 1984											
31...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306039 - COTTONWOOD GULCH NEAR RIO BLANCO, CO.

DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
MAY , 1984											
31...	--	--	--	--	--	--	--	--	--	--	6

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306039 - COTTONWOOD GULCH NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	SULFIDE DIS- SOLVED (MG/L AS S) (00746)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137) (03515)
MAY , 1984											
31...	1.9	<1	8.0	28	--	600	60	--	6	--	5.9

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306042 - PICEANCE CREEK TRIBUTARY NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICAR-BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CAR-BONATE FET-FLD (MG/L AS CO3) (00445)
NOV , 1983												
09...	--	80	.060	2	500	--	--	700	.010	<1	14	--
APR , 1984												
06...	--	--	.040	1	--	--	--	710	--	--	8.9	--
MAY												
25...	--	30	<.010	<1	600	--	--	700	<.010	2	10	--
JUN												
20...	--	--	.020	<1	--	--	--	710	--	--	9.0	--
JUL												
25...	--	--	.030	1	--	--	--	670	--	--	8.8	--

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV , 1983											
09...	29	8.2	<10	--	K16	6	--	--	19	100	<1
APR , 1984											
06...	--	8.7	--	--	--	--	--	--	19	60	--
MAY											
25...	26	11	<10	--	400	1	--	--	20	<10	4
JUN											
20...	--	9.2	--	--	--	--	--	--	23	20	--
JUL											
25...	--	7.8	--	--	--	--	--	--	18	30	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306042 - PICEANCE CREEK TRIBUTARY NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
NOV , 1983											
09...	40	8.6	<10	<.1	--	<4	--	--	--	--	--
APR , 1984											
06...	--	6.7	<10	--	--	--	--	--	--	--	--
MAY											
25...	40	7.4	<10	<.1	--	4	--	--	--	--	--
JUN											
20...	--	6.9	<10	--	--	--	--	--	--	--	--
JUL											
25...	--	6.8	<10	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306042 - PICEANCE CREEK TRIBUTARY NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
NOV , 1983											
09...	--	--	--	--	--	--	--	--	--	--	--
APR , 1984											
06...	--	--	--	--	--	--	--	--	--	--	--
MAY											
25...	--	--	--	--	--	--	--	--	--	--	--
JUN											
20...	--	--	--	--	--	--	--	--	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306042 - PICEANCE CREEK TRIBUTARY NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
NOV , 1983											
09...	--	--	--	--	--	--	--	--	--	--	5
APR , 1984											
06...	--	--	--	--	--	--	--	--	--	--	<1
MAY											
25...	--	--	--	--	--	--	--	--	--	--	<1
JUN											
20...	--	--	--	--	--	--	--	--	--	--	<1
JUL											
25...	--	--	--	--	--	--	--	--	--	--	<1

WATER QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SULFIDE DISSOLVED (MG/L AS S) (00746)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)
NOV , 1983											
09...	2.0	<1	13	500	--	1300	38	--	10	7.5	<22
APR , 1984											
06...	1.5	--	11	560	--	1100	27	--	--	--	--
MAY											
25...	1.6	<1	10	520	--	1400	27	--	<10	--	<20
JUN											
20...	1.6	--	11	600	--	950	32	--	--	--	--
JUL											
25...	1.7	--	12	520	--	970	25	--	--	--	--

WATER QUALITY DATA

DATE	ALKA- LINITY FIELD (MG/L AS CACO3) (00410)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BICAR- BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	BORON, DIS- SOLVED (UG/L AS B) (01020)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	CAR- BONATE FET-FLD (MG/L AS CO3) (00445)
NOV , 1983												
10...	--	10	.050	<1	64	--	--	110	<.010	<1	91	--
MAR , 1984												
27...	--	--	<.010	<1	--	--	--	130	--	--	86	--
MAY												
23...	--	<10	.120	<1	91	--	--	100	.021	<1	88	--
JUN												
20...	--	--	.040	<1	--	--	--	130	--	--	91	--
JUL												
25...	--	--	.040	1	--	--	--	120	--	--	88	--
SEP												
12...	--	--	.030	<1	--	--	--	150	--	--	87	--

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV , 1983											
10...	13	13	<10	--	--	1	--	--	.30	8	<1
MAR , 1984											
27...	--	14	--	--	--	--	--	--	.40	8	--
MAY											
23...	20	13	<10	--	--	1	--	--	.30	<3	<1
JUN											
20...	--	12	--	--	--	--	--	--	.50	13	--
JUL											
25...	--	11	--	--	--	--	--	--	.40	6	--
SEP											
12...	--	12	--	--	--	--	--	--	.60	9	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306058 - WILLOW CREEK NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
NOV , 1983											
10...	28	68	11	<.1	--	<2	--	--	--	--	--
MAR , 1984											
27...	--	61	18	--	--	--	--	--	--	--	--
MAY											
23...	21	55	13	<.1	--	4	--	--	--	--	--
JUN											
20...	--	66	24	--	--	--	--	--	--	--	--
JUL											
25...	--	66	22	--	--	--	--	--	--	--	--
SEP											
12...	--	68	31	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306058 - WILLOW CREEK NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
NOV , 1983											
10...	--	--	--	--	--	--	--	--	--	--	--
MAR , 1984											
27...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
20...	--	--	--	--	--	--	--	--	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306058 - WILLOW CREEK NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
NOV , 1983											
10...	--	--	--	--	--	--	--	--	--	--	8
MAR , 1984											
27...	--	--	--	--	--	--	--	--	--	--	<1
MAY											
23...	--	--	--	--	--	--	--	--	--	--	<1
JUN											
20...	--	--	--	--	--	--	--	--	--	--	<1
JUL											
25...	--	--	--	--	--	--	--	--	--	--	<1
SEP											
12...	--	--	--	--	--	--	--	--	--	--	<1

WATER QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SULFIDE DISSOLVED (MG/L AS S) (00746)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)
NOV , 1983											
10...	--	1	16	110	--	2600	290	--	5	--	<11
MAR , 1984											
27...	1.1	--	16	100	--	--	290	--	--	--	--
MAY											
23...	1.0	2	18	96	--	2000	270	--	14	8.8	<9.4
JUN											
20...	3.4	--	18	110	--	2600	320	--	--	--	--
JUL											
25...	1.8	--	17	110	--	2600	300	--	--	--	--
SEP											
12...	2.1	--	18	120	--	2700	310	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306061 - PICEANCE CREEK AB HUNTER C, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICAR-BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CAR-BONATE FET-FLD (MG/L AS CO3) (00445)
NOV , 1983												
09...	--	<10	.050	1	97	--	--	170	<.010	<1	75	--
MAR , 1984												
27...	--	--	<.010	1	--	--	--	150	--	--	75	--
MAY												
24...	--	10	.040	2	100	--	--	90	.042	<1	69	--
JUN												
21...	--	--	.030	2	--	--	--	130	--	--	79	--
JUL												
25...	--	--	.030	--	--	--	--	--	--	--	--	--
SEP												
12...	--	--	.030	1	--	--	--	150	--	--	77	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306061 - PICEANCE CREEK AB HUNTER C, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
NOV , 1983											
09...	16	14	<10	--	K4	3	--	--	1.0	6	2
MAR , 1984											
27...	--	17	--	--	--	--	--	--	1.0	15	--
MAY											
24...	140	15	<10	--	K430	4	--	--	.50	5	<1
JUN											
21...	--	14	--	--	--	--	--	--	.60	12	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	14	--	--	--	--	--	--	.60	<3	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306061 - PICEANCE CREEK AB HUNTER C, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
NOV , 1983											
09...	22	56	21	<.1	--	5	--	--	--	--	--
MAR , 1984											
27...	--	53	19	--	--	--	--	--	--	--	--
MAY											
24...	24	38	14	<.1	--	8	--	--	--	--	--
JUN											
21...	--	52	12	--	--	--	--	--	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	59	13	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306061 - PICEANCE CREEK AB HUNTER C, NEAR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
NOV , 1983											
09...	--	--	--	--	--	--	--	--	--	--	--
MAR , 1984											
27...	--	--	--	--	--	--	--	--	--	--	--
MAY											
24...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	--	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
NOV , 1983											
09...	--	--	--	--	--	--	--	--	--	--	7
MAR , 1984											
27...	--	--	--	--	--	--	--	--	--	--	2
MAY											
24...	--	--	--	--	--	--	--	--	--	--	<1
JUN											
21...	--	--	--	--	--	--	--	--	--	--	2
JUL											
25...	--	--	--	--	--	--	--	--	--	--	3
SEP											
12...	--	--	--	--	--	--	--	--	--	--	<1

WATER QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SULFIDE DISSOLVED (MG/L AS S) (00746)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)
NOV , 1983											
09...	2.3	2	15	130	--	2000	260	--	6	2.0	<11
MAR , 1984											
27...	2.4	--	14	130	--	--	260	--	--	--	--
MAY											
24...	2.9	3	14	72	--	990	200	--	20	--	<8.5
JUN											
21...	2.7	--	16	100	--	1500	230	--	--	--	--
JUL											
25...	--	--	--	--	--	1700	--	--	--	--	--
SEP											
12...	2.6	--	16	120	--	2000	280	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306200 - PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICAR-BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CAR-BONATE FET-FLD (MG/L AS CO3) (00445)
DEC , 1983												
06...	--	--	.050	2	93	--	--	160	--	--	86	--
JAN , 1984												
26...	--	--	.060	--	--	--	--	150	--	--	78	--
APR												
13...	--	--	.050	--	--	--	--	130	--	--	75	--
MAY												
23...	--	--	.130	3	100	--	--	80	--	--	77	--
JUN												
21...	--	--	.030	--	--	--	--	130	--	--	81	--

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COLI- FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	CYANIDE DIS- SOLVED (MG/L AS CN) (00723)	STREP- TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
DEC , 1983											
06...	--	15	--	--	--	--	--	--	.80	7	--
JAN , 1984											
26...	--	12	--	--	--	--	--	--	.90	--	--
APR											
13...	--	16	--	--	--	--	--	--	.70	--	--
MAY											
23...	--	11	--	--	--	--	--	--	.40	7	--
JUN											
21...	--	13	--	--	--	--	--	--	.60	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306200 - PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
DEC , 1983											
06...	27	74	28	--	--	6	--	--	--	--	--
JAN , 1984											
26...	--	64	--	--	--	--	--	--	--	--	--
APR											
13...	--	56	--	--	--	--	--	--	--	--	--
MAY											
23...	25	44	9	--	--	11	--	--	--	--	--
JUN											
21...	--	59	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306200 - PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
DEC , 1983											
06...	--	--	--	--	--	--	--	--	--	--	--
JAN , 1984											
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306200 - PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
DEC , 1983											
06...	--	--	--	--	--	--	--	--	--	--	--
JAN , 1984											
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

09306200 - PICEANCE CREEK BL RYAN GULCH, NR RIO BLANCO, CO. DISTRICT CODE 08

WATER QUALITY DATA

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	SULFIDE DISSOLVED (MG/L AS S) (00746)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DISSOLVED (PCI/L AS CS-137) (03515)
DEC , 1983											
06...	2.1	--	17	150	--	2900	330	--	8	--	--
JAN , 1984											
26...	1.9	--	15	130	--	2500	300	--	--	--	--
APR											
13...	2.4	--	14	120	--	1800	280	--	--	--	--
MAY											
23...	1.9	--	16	78	--	1300	210	--	10	--	--
JUN											
21...	2.6	--	17	110	--	1900	260	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306222 - PICEANCE CREEK AT WHITE RIVER, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	ALKA-LINITY FIELD (MG/L AS CACO3) (00410)	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BICAR-BONATE FET-FLD (MG/L AS HCO3) (00440)	OXYGEN DEMAND, BIO-CHEM-ICAL, 5 DAY (MG/L) (00310)	BORON, DIS-SOLVED (UG/L AS B) (01020)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	CAR-BONATE FET-FLD (MG/L AS CO3) (00445)
DEC , 1983												
06...	--	--	.100	3	98	--	--	220	--	--	73	--
JAN , 1984												
26...	--	--	.090	--	--	--	--	220	--	--	71	--
APR												
13...	--	--	.070	--	--	--	--	180	--	--	61	--
MAY												
23...	--	--	.140	2	110	--	--	100	--	--	71	--
JUN												
21...	--	--	.030	--	--	--	--	150	--	--	70	--
SEP												
12...	--	--	.020	<1	--	--	--	80	--	--	87	--

WATER QUALITY DATA

DATE	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L) (00340)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./ 100 ML) (31616)	COLI-FORM, TOTAL, IMMED. (COLS. PER 100 ML) (31501)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML) (31679)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
DEC , 1983											
06...	--	29	--	--	--	--	--	--	1.0	6	--
JAN , 1984											
26...	--	25	--	--	--	--	--	--	1.1	--	--
APR											
13...	--	25	--	--	--	--	--	--	.90	--	--
MAY											
23...	--	14	--	--	--	--	--	--	.40	8	--
JUN											
21...	--	18	--	--	--	--	--	--	.60	--	--
SEP											
12...	--	7.8	--	--	--	--	--	--	.30	<3	--

WATER QUALITY DATA

DATE	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L) (38260)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	OIL AND GREASE (MG/L) (00550)	CARBON, INORG + ORGANIC DIS-SOLVED (MG/L AS C) (00682)	CARBON, INOR-GANIC, DIS-SOLVED (MG/L AS C) (00691)
DEC , 1983											
06...	39	72	8	--	--	7	--	--	--	--	--
JAN , 1984											
26...	--	67	--	--	--	--	--	--	--	--	--
APR											
13...	--	58	--	--	--	--	--	--	--	--	--
MAY											
23...	28	45	6	--	--	12	--	--	--	--	--
JUN											
21...	--	58	--	--	--	--	--	--	--	--	--
SEP											
12...	--	70	7	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306222 - PICEANCE CREEK AT WHITE RIVER, CO

DISTRICT CODE 08

WATER QUALITY DATA

DATE	CARBON, TOTAL (MG/L AS C) (00690)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	ALDRIN, TOTAL (UG/L) (39330)	LINDANE TOTAL (UG/L) (39340)	CHLOR-DANE, TOTAL (UG/L) (39350)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DI-ELDRIN TOTAL (UG/L) (39380)	ENDRIN, TOTAL (UG/L) (39390)	TOX-APHENE, TOTAL (UG/L) (39400)
DEC , 1983											
06...	--	--	--	--	--	--	--	--	--	--	--
JAN , 1984											
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	--	--	--	--	--	--	--	--	--	--

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306222 - PICEANCE CREEK AT WHITE RIVER, CO

DISTRICT CODE 08

WATER QUALITY DATA

DATE	HEPTA-CHLOR, TOTAL (UG/L) (39410)	HEPTA-CHLOR EPOXIDE TOTAL (UG/L) (39420)	PCB, TOTAL (UG/L) (39516)	MALA-THION, TOTAL (UG/L) (39530)	PARA-THION, TOTAL (UG/L) (39540)	DI-AZINON, TOTAL (UG/L) (39570)	METHYL PARA-THION, TOTAL (UG/L) (39600)	2,4-D, TOTAL (UG/L) (39730)	2,4,5-T TOTAL (UG/L) (39740)	SILVEX, TOTAL (UG/L) (39760)	PHENOLS TOTAL (UG/L) (32730)
DEC , 1983											
06...	--	--	--	--	--	--	--	--	--	--	--
JAN , 1984											
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
23...	--	--	--	--	--	--	--	--	--	--	--
JUN											
21...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	--	--	--	--	--	--	--	--	--	--	<1

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY
09306222 - PICEANCE CREEK AT WHITE RIVER, CO DISTRICT CODE 08

WATER QUALITY DATA

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	SULFIDE DIS-SOLVED (MG/L AS S) (00746)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT) (01516)	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)
DEC , 1983											
06...	2.2	--	16	240	--	2400	340	--	7	--	--
JAN , 1984											
26...	2.1	--	15	220	--	2300	310	--	--	--	--
APR											
13...	2.6	--	14	190	--	1800	290	--	--	--	--
MAY											
23...	2.3	--	16	97	--	1300	230	--	9	--	--
JUN											
21...	2.8	--	17	150	--	1800	280	--	--	--	--
SEP											
12...	1.3	--	16	120	--	2700	340	--	--	--	--

C-B TRACT AND USGS DOC FRACTIONATION RESULTS
WATER QUALITY (MG/L)

LOC	YR	MO	DY	DISSOLVED ORGANIC CARBON (PPM C)	TOTAL HYDROPHOBICS (PPM C)	HYDROPHOBICS BASES (PPM C)	HYDROPHOBICS ACIDS (PPM C)	HYDROPHOBICS NEUTRALS (PPM C)	TOTAL HYDROPHILICS (PPM C)	HYDROPHILICS BASES (PPM C)	HYDROPHILICS ACIDS (PPM C)	HYDROPHILICS NEUTRALS (PPM C)
6007	80	9	15	4.2	2.0		1.2	.8	2.2	.3	1.8	.1
	81	4	15	4.7	2.2		1.4	.8	2.6	.1	2.2	.2
		10	19	4.6	1.7	.1	1.5	.2	2.9	.4	2.4	.1
	82	5	19	6.3	2.9		2.2	.6	3.4	.2	2.9	.3
		11	2	4.6	2.0		1.5	.4	2.5	.4	2.1	
	83	5	10	8.1	3.4		2.7	.7	4.7	.2	3.8	.7
6042	81	4	15	3.3	2.5		.9	1.6	.9	.3	.1	.5
	82	11	2	3.5	2.6	.1	1.2	1.3	.9	.1	.8	
	83	5	10	4.9	2.6	.1	1.2	1.4	2.3	.3	.9	1.1
6061	80	9	15	3.6	1.6		1.0	.6	2.0	.3	1.6	.1
	81	4	15	3.8	1.8		.9	1.0	2.0	.4	1.3	.4
		10	19	4.4	1.8		1.2	.6	2.5	.4	2.2	
	82	5	19	6.2	2.1		2.1		4.0	.4	3.4	.2
		11	3	3.8	1.6		1.1	.5	2.2	.3	1.6	.3
	83	5	11	8.5	3.4	.1	2.9	.4	5.1	.4	3.7	1.0

NOTE: - INDICATES LESS THAN

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	408	370	388	435	374	400	358	348	353	376	350	367
2	406	370	389	424	377	400	351	343	348	403	377	391
3	399	365	382	415	344	369	361	349	352	394	365	384
4	396	360	376	356	340	353	354	343	349	372	343	357
5	400	357	374	389	360	378	363	344	353	365	352	359
6	396	357	374	---	---	---	384	352	370	374	358	367
7	402	360	381	---	---	---	367	358	363	377	361	369
8	396	356	373	---	---	---	358	349	354	379	362	373
9	390	356	364	---	---	---	357	348	351	382	368	374
10	363	356	359	361	357	359	359	353	355	403	372	390
11	405	350	364	359	343	350	366	356	358	393	377	386
12	402	353	373	---	---	---	365	360	363	382	376	379
13	398	352	370	---	---	---	367	357	362	395	377	386
14	398	346	363	---	---	---	366	323	361	378	371	375
15	382	345	357	---	---	---	359	339	352	386	376	382
16	369	361	364	374	361	369	367	341	356	415	387	401
17	373	366	369	363	351	358	363	348	355	408	398	402
18	377	370	374	357	339	347	368	331	354	419	400	410
19	372	344	348	355	341	347	364	353	357	422	409	418
20	355	346	352	359	351	356	402	354	377	409	404	407
21	355	345	350	357	348	353	408	374	397	408	399	403
22	394	345	361	356	350	354	395	373	385	403	385	393
23	400	345	374	376	356	366	372	362	366	388	379	384
24	404	347	367	369	360	365	375	368	371	387	381	384
25	410	347	371	359	339	347	369	338	353	385	374	381
26	401	349	375	347	335	339	337	325	330	385	375	380
27	414	348	368	361	348	355	351	325	341	388	376	384
28	411	356	375	358	344	351	379	352	367	392	380	387
29	427	359	388	348	337	344	416	381	395	404	387	397
30	433	368	388	363	319	341	399	355	372	412	387	398
31	440	374	408	---	---	---	355	346	351	401	393	397
MONTH	440	344	372	435	319	359	416	323	360	422	343	386

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	400	389	396	396	361	378	---	---	---	395	387	391
2	399	385	394	382	365	376	---	---	---	396	385	389
3	409	394	403	377	372	374	---	---	---	396	391	393
4	412	397	404	394	377	384	---	---	---	400	374	386
5	409	393	402	412	379	399	393	384	388	385	374	380
6	410	396	404	404	376	394	---	---	---	386	375	381
7	407	395	401	395	361	383	---	---	---	388	375	384
8	401	371	386	406	364	386	---	---	---	386	371	379
9	407	364	386	379	367	375	---	---	---	378	350	364
10	395	365	381	380	373	376	---	---	---	347	291	326
11	387	369	380	382	372	377	---	---	---	296	272	286
12	408	382	399	381	374	377	410	393	400	285	250	258
13	387	380	385	386	378	381	398	383	388	264	234	251
14	385	381	384	391	386	388	399	392	395	257	230	244
15	403	384	392	400	387	391	404	393	397	247	215	232
16	407	358	385	409	402	406	398	374	383	242	217	229
17	379	361	375	406	396	401	385	367	373	231	198	219
18	395	379	389	395	387	390	376	350	358	207	187	196
19	409	386	402	400	387	394	349	315	331	235	206	218
20	440	403	423	398	393	396	---	---	---	---	---	---
21	439	391	419	398	373	386	---	---	---	---	---	---
22	402	390	396	382	359	368	---	---	---	---	---	---
23	399	361	374	376	367	369	---	---	---	---	---	---
24	403	340	374	376	365	369	---	---	---	194	185	189
25	379	359	371	374	356	363	---	---	---	---	---	---
26	381	370	376	370	365	367	376	366	369	---	---	---
27	407	369	392	385	367	374	377	373	376	---	---	---
28	403	360	383	391	382	386	389	380	383	---	---	---
29	---	---	377	395	381	388	388	380	383	---	---	---
30	---	---	---	388	378	385	393	383	388	---	---	---
31	---	---	---	---	---	---	---	---	---	207	194	203
MONTH	440	340	391	412	356	383	410	315	379	400	185	300

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	202	183	192	---	---	---	288	281	285	334	302	318
2	208	192	200	---	---	---	302	289	294	322	306	314
3	209	195	203	208	202	205	305	296	301	336	323	329
4	207	199	203	211	187	197	308	297	303	338	329	333
5	---	---	---	231	19	210	311	302	307	337	329	334
6	225	201	215	---	---	---	303	286	294	338	329	334
7	215	181	198	---	---	---	303	295	299	339	332	335
8	186	179	183	---	---	---	309	299	305	337	331	334
9	208	185	192	---	---	---	315	303	309	336	330	334
10	240	209	227	245	214	221	313	304	309	338	330	335
11	235	212	225	253	248	250	315	302	310	339	331	335
12	232	221	226	263	259	262	314	306	310	333	322	328
13	229	219	225	269	261	266	318	309	314	328	321	325
14	219	210	215	272	266	269	320	311	317	332	327	330
15	210	202	207	283	278	280	322	315	319	336	323	332
16	204	199	201	286	279	283	327	310	316	328	312	322
17	209	201	205	295	287	291	323	315	320	337	309	324
18	209	201	205	300	291	296	327	312	323	343	337	340
19	208	202	205	295	290	293	319	313	316	346	339	343
20	203	198	0	298	290	294	325	284	304	350	336	343
21	198	171	186	294	288	292	309	293	300	344	335	340
22	184	167	174	296	288	292	313	307	310	346	333	340
23	189	169	181	294	290	293	324	319	322	347	339	343
24	192	180	186	293	273	280	324	311	316	349	338	344
25	192	179	187	283	269	274	315	309	312	339	328	334
26	205	189	195	292	271	282	323	315	317	348	335	341
27	202	184	194	298	284	291	328	322	325	349	338	344
28	205	188	194	302	292	297	330	322	327	346	335	341
29	---	---	---	302	295	299	330	324	327	354	336	343
30	---	---	---	303	285	294	342	329	332	365	342	350
31	---	---	---	285	272	279	337	330	334	---	---	---
MONTH	240	167	193	303	19	272	342	281	312	365	302	335
YEAR	440	19	338									

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

STATION NUMBER 09304200 WHITE RIVER ABOVE COAL CREEK, NEAR MEEKER, CO. STREAM SOURCE AGENCY USGS
LATITUDE 400018 LONGITUDE 1074929 DRAINAGE AREA 648.00 DATUM 6400.00 STATE 08 COUNTY 103

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.5	9.0	10.0	7.5	5.5	6.5	1.5	.5	1.0	.0	.0	.0
2	10.0	8.0	9.0	7.0	5.0	6.0	3.0	1.0	2.0	.0	.0	.0
3	8.0	6.0	7.0	7.0	4.5	6.5	2.5	.0	1.5	.0	.0	.0
4	10.0	5.0	7.5	7.0	3.5	5.5	2.5	.0	1.0	.0	.0	.0
5	10.5	6.0	8.5	6.5	4.0	5.5	.0	.0	.0	.5	.0	.0
6	11.0	7.0	9.0	7.0	4.0	5.5	.0	.0	.0	.5	.0	.0
7	9.5	7.0	9.0	7.0	4.0	5.5	.5	.0	.0	.5	.0	.0
8	10.5	6.5	8.5	7.0	3.5	5.0	2.0	.5	1.0	.5	.0	.0
9	10.5	8.0	9.0	3.5	1.5	2.5	2.5	.5	1.5	1.0	.0	.5
10	9.5	8.0	9.0	4.0	2.0	31.0	2.5	1.5	2.0	.0	.0	.0
11	9.0	7.0	8.0	5.0	3.0	4.0	2.5	1.0	2.0	.0	.0	.0
12	9.0	5.5	7.5	5.5	3.5	4.5	3.0	2.0	2.0	.0	.0	.0
13	9.0	5.5	7.5	6.0	4.0	4.5	1.5	.0	.5	.0	.0	.0
14	8.5	6.5	7.0	4.5	2.0	3.0	.5	.0	.0	.5	.0	.0
15	7.5	5.0	6.0	2.5	.5	1.5	1.0	.0	.5	.0	.0	.0
16	7.0	4.0	5.5	3.0	.5	2.0	.0	.0	.0	.0	.0	.0
17	7.5	4.0	6.0	4.5	1.5	3.0	1.5	.0	.5	.0	.0	.0
18	8.5	6.5	7.5	4.0	2.5	3.0	1.0	.0	.5	.0	.0	.0
19	7.5	4.5	6.5	3.0	1.0	2.0	1.5	.0	.5	.0	.0	.0
20	7.0	3.5	5.5	3.0	1.0	2.0	.5	.0	.0	.0	.0	.0
21	8.0	4.0	6.0	2.5	1.0	2.0	.0	.0	.0	.0	.0	.0
22	8.0	4.0	6.0	1.0	.0	.5	.0	.0	.0	.0	.0	.0
23	8.0	4.0	6.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
24	6.5	4.5	5.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
25	7.0	4.0	5.5	2.5	.5	1.5	.0	.0	.0	.0	.0	.0
26	7.0	3.5	5.5	1.5	.0	.5	.0	.0	.0	.5	.0	.0
27	7.0	3.5	5.5	.0	.0	.0	.0	.0	.0	.0	.0	.0
28	6.5	3.5	5.0	.5	.0	.0	.0	.0	.0	.5	.0	.0
29	7.0	4.0	5.5	.5	.0	.0	.0	.0	.0	.5	.0	.0
30	7.0	4.5	6.0	.5	.0	.0	.0	.0	.0	.0	.0	.0
31	7.5	5.5	6.5	---	---	---	.5	.0	.0	.5	.0	.0
MONTH	11.5	3.5	7.0	7.5	.0	4.0	3.0	.0	.5	1.0	.0	.0

UNITED STATES DEPARTMENT OF INTERIOR - GEOLOGICAL SURVEY

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.5	.0	.0	4.0	.0	2.0	---	---	---	7.5	4.5	6.5
2	.5	.0	.0	4.5	.5	3.0	---	---	---	8.5	4.5	6.5
3	.5	.0	.0	4.5	2.0	3.5	---	---	---	9.0	4.5	6.5
4	1.0	.0	.5	3.0	.5	1.5	---	---	---	8.0	4.5	7.0
5	1.0	.0	.5	1.0	.5	.5	9.0	7.5	8.5	9.0	5.0	7.0
6	1.0	.0	.5	2.0	.0	1.0	8.5	5.0	7.0	8.5	5.0	7.0
7	1.0	.0	.5	3.5	.5	1.5	8.5	5.5	7.0	9.5	3.5	6.5
8	2.0	.0	.5	4.5	.0	2.5	10.0	4.0	7.5	11.5	4.0	8.0
9	1.0	.0	.5	4.5	.5	3.0	8.5	4.5	5.5	12.0	5.5	9.0
10	3.0	.0	1.0	6.5	1.0	4.0	7.0	2.0	4.5	12.0	6.0	9.0
11	1.0	.0	.5	5.5	2.5	4.0	6.5	3.0	4.5	11.5	5.5	8.5
12	1.0	.0	.5	4.5	1.0	3.0	6.0	.5	3.5	10.0	5.0	7.5
13	3.0	.0	1.5	6.0	.5	3.5	8.5	3.0	6.0	9.0	4.0	6.5
14	3.0	1.0	2.0	5.5	3.0	4.0	8.5	3.0	6.0	10.5	4.5	7.0
15	2.5	.0	1.0	6.5	1.5	4.0	9.5	3.5	6.5	9.0	4.5	7.0
16	2.0	.0	.5	5.5	3.5	4.5	11.0	4.5	8.0	9.5	5.0	7.0
17	1.5	.0	1.0	5.5	1.0	3.0	11.5	5.0	8.5	10.0	3.5	7.0
18	2.0	.0	1.0	4.0	1.0	2.5	11.0	6.5	9.0	8.0	4.5	6.5
19	1.5	.0	.5	6.0	.5	3.5	9.0	6.0	7.5	10.5	4.5	7.5
20	1.0	.0	.5	6.5	1.0	4.0	6.0	4.0	5.0	10.5	5.0	7.5
21	1.0	.0	.5	8.5	2.5	5.5	7.5	2.5	5.0	9.0	5.0	7.0
22	2.5	.0	1.0	5.5	2.5	4.0	8.5	2.5	5.5	11.0	5.0	8.0
23	1.0	.0	.5	6.5	1.5	4.5	10.0	4.5	7.5	11.5	5.0	8.0
24	2.0	.0	.5	7.5	2.0	5.0	8.5	5.5	7.0	9.5	5.5	8.0
25	1.5	.0	.5	6.5	3.0	5.0	7.5	3.0	4.5	10.0	5.5	7.5
26	3.0	.0	1.0	4.5	2.0	3.5	6.0	1.5	3.5	11.0	5.0	8.0
27	1.0	.0	.5	6.0	2.0	4.0	7.5	1.5	4.5	10.5	5.5	8.0
28	1.5	.0	.5	6.5	2.0	5.5	5.5	1.5	4.0	10.5	5.0	8.0
29	---	---	1.5	6.0	2.5	4.5	8.0	2.5	5.5	11.5	5.5	8.5
30	---	---	---	5.5	3.0	4.0	7.5	4.0	5.5	10.5	6.0	8.5
31	---	---	---	---	---	---	---	---	---	9.5	6.5	7.5
MONTH	3.0	.0	.5	8.5	.0	3.5	11.5	.5	6.0	12.0	3.5	7.5

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.0	6.5	7.5	14.0	9.0	11.5	15.5	12.0	14.0	15.0	12.0	13.5
2	11.0	5.0	7.5	14.5	10.0	12.5	15.5	11.5	13.5	14.5	9.0	12.0
3	9.5	6.5	8.0	14.5	10.0	12.5	15.5	11.5	13.5	15.0	9.5	12.5
4	9.5	5.5	8.0	14.5	10.0	12.5	17.0	11.5	14.5	15.0	10.0	12.5
5	9.0	6.5	7.0	15.0	10.0	12.5	15.5	12.0	14.0	15.5	10.5	13.0
6	6.5	5.0	6.0	---	---	---	16.0	12.0	14.0	15.0	11.0	13.0
7	7.5	4.5	6.5	---	---	---	17.0	12.0	14.5	13.0	11.5	12.0
8	6.5	4.5	5.5	---	---	---	17.0	11.5	146	13.5	8.5	11.0
9	8.5	4.5	6.0	---	---	---	17.5	12.0	15.0	15.0	9.5	12.0
10	---	---	---	---	---	---	17.0	12.0	14.5	15.0	10.0	13.0
11	---	---	---	16.0	14.5	15.5	17.0	12.0	14.5	13.0	10.5	11.5
12	---	---	---	16.0	10.5	13.5	16.0	12.5	14.5	13.5	10.0	11.5
13	12.5	8.0	11.0	15.0	12.5	13.5	17.0	12.5	15.0	14.5	11.0	12.5
14	12.5	7.5	10.0	15.0	12.0	13.5	18.0	13.5	16.0	15.0	10.5	13.0
15	11.5	8.5	10.0	15.5	12.0	14.0	16.5	13.0	14.5	13.5	10.5	12.0
16	10.0	7.5	8.5	16.5	11.0	14.0	16.0	13.0	14.5	12.5	10.5	11.5
17	11.5	7.0	9.5	16.5	11.0	14.0	17.5	12.5	15.0	14.0	9.0	11.5
18	10.5	7.0	9.0	17.0	11.5	14.5	16.0	13.5	15.0	14.5	10.0	12.5
19	11.5	7.0	9.5	17.0	12.0	15.0	16.5	12.5	14.5	13.5	10.5	12.0
20	12.0	8.0	10.0	17.0	12.5	15.0	15.5	12.0	13.5	14.0	9.5	11.5
21	12.0	7.5	10.0	18.0	12.5	15.5	14.0	11.0	12.5	13.5	11.0	12.0
22	12.0	7.5	10.0	17.0	13.5	15.5	14.5	11.0	13.0	12.0	9.0	10.5
23	12.5	7.5	10.0	17.5	12.5	14.5	14.0	11.5	12.5	13.5	9.0	11.0
24	13.0	8.0	10.5	17.0	12.5	15.0	15.0	12.0	13.5	11.5	9.0	10.5
25	12.0	8.5	10.0	17.0	12.5	14.5	14.0	11.0	12.5	9.5	6.0	8.0
26	13.0	8.0	10.5	15.5	12.5	13.5	16.0	10.5	13.5	8.5	6.0	7.5
27	13.5	8.5	11.0	15.0	11.5	13.5	16.0	11.0	14.0	11.5	7.0	9.0
28	14.0	9.0	11.5	16.0	12.0	14.0	16.0	11.5	14.0	10.0	7.0	8.5
29	14.0	9.5	12.0	16.0	11.5	14.0	16.5	11.5	14.0	8.5	5.0	7.0
30	13.0	9.5	11.0	16.0	12.5	14.5	16.5	11.0	14.0	9.0	4.5	7.0
31	---	---	---	16.0	11.5	13.5	17.0	12.0	14.5	---	---	---
MONTH	14.0	4.5	9.0	18.0	9.0	14.0	18.0	10.5	18.5	15.5	4.5	11.0
YEAR	18.0	.0	6.5									

TABLE 1.2.2.1-2

Remark Codes for USGS
Water Quality Data

CHARACTER	REMARK
E	Estimated Value
<	Actual value is known to be less than value shown
>	Actual value is known to be greater than value shown
M	Presence of material verified but not quantified
N	Presumptive evidence of presence of material
ND	Material specifically analyzed for but not detected
K	Results based on colony count outside the acceptable range (non-ideal colony count)

SPRINGS AND SEEPS

1.2.2.2 Springs and Seeps

Locations of springs and seeps on and around the C-b Tract are shown in Figure 1.2.1.2-1 of Section 1.2.1.2.

During this report period field data for pH or conductivity remained between the 20% range for these baseline values. Field measurement data for this reporting period are shown in the flow section, 1.2.1.2, Table 1.2.1.2-1. If a sample were required, parameters to be analyzed are listed in Table 1.2.2.2-1. A quarterly water sample was taken in August 1984 as shown in Table 1.2.2.2-2.

TABLE 1.2.2.2-1

Parameters Analyzed During IMP - Springs

Ag	Mo	Ca	TDS
AS	Cl	Mg	SO_4
Ba	Li	Fluoride	CO_3
Cd	Al	B	HCO_3
Cr	Sr	Ni	NO_3
Cu	Se	Oil & Grease	Alkalinity
Fe	Zn	Temperature	Hardness
Hg	pH	Kjeldahl-N	Phenols
Mn	Na	COD	Ammonia
Pb	K	BOD	DOC Fraction

Time series plots of temperature, pH and specific conductance are displayed in this section. Dashed lines on the pH and specific conductance plots represent the baseline mean. These plots can be referenced with Table 1.2.2.2-2.

TABLE 1.2.2.2-2

Parameter List of Springs and Seeps
Time Series Plots

Station Code		Temperature	pH	Specific Conductance	Field Fluoride
S-1	WS01	I-312	I-327	I-339	
S-2	WS02	I-313	I-328	I-340	
S-4	WS04	I-314	I-329	I-341	
S-6	WS06	I-315	I-330	I-342	
S-7	WS07	I-316	I-331	I-343	I-324
S-8	WS08	I-317	I-332	I-344	
S-9	WS09	I-318	I-333	I-345	
S-10	WS10	I-319	I-334	I-346	
SEEPA	WS11	I-320	I-335	I-347	
S-102	WS12	I-321	I-336	I-348	I-325
S-102A	WS13	I-322	I-337	I-349	I-326
S-11	WS36	I-323	I-338	I-350	
S-6A	WS66	I-323a	I-338a	I-350a	

TABLE 1.2.2.2-2

Parameter List of Springs and Seeps
Time Series Plots

Station Code		Temperature	pH	Specific Conductance	Field Fluoride
S-1	WS01	I-312	I-327	I-339	
S-2	WS02	I-313	I-328	I-340	
S-4	WS04	I-314	I-329	I-341	
S-6	WS06	I-315	I-330	I-342	
S-7	WS07	I-316	I-331	I-343	I-324
S-8	WS08	I-317	I-332	I-344	
S-9	WS09	I-318	I-333	I-345	
S-10	WS10	I-319	I-334	I-346	
SEEPA	WS11	I-320	I-335	I-347	
S-102	WS12	I-321	I-336	I-348	I-325
S-102A	WS13	I-322	I-337	I-349	I-326
S-11	WS36	I-323	I-338	I-350	

TABLE 1.2.2.2-3

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
SPRINGS

SPRING	YR	MO	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHENOLS (MG/L)	K (MG/L)	B (UG/L)	TOTAL DISS SOLIDS (MG/L)	SR (UG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WS01	84	8					1.2	90.00		2700	350.0	7.4			
WS02	84	8					.8	70.00		2600	290.0	6.9			
WS08	84	8					1.4	120.00		3400	320.0	11.0			
WS09	84	8					1.0	100.00		3300	320.0	10.0			
WS11	84	8					1.0	110.00		2900	320.0	10.0			
WS12	84	8					1.5	470.00		1700	130.0	10.0			
WS13	84	8					1.7	470.00		1800	120.0	10.0			
WS36	84	8					1.0	90.00		2600	330.0	7.3			

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.2-3 (cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
SPRINGS

SPRING	YR	MO	TOTAL ALK (MG/L CACO3)	AL (MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WS01	84	8	419.0									120.0	74.0	82.0
WS02	84	8	376.0									110.0	62.0	74.0
WS08	84	8	471.0									120.0	75.0	94.0
WS09	84	8	449.0									120.0	74.0	94.0
WS11	84	8	428.0									110.0	70.0	94.0
WS12	84	8	749.0									280.0	43.0	50.0
WS13	84	8	768.0									280.0	45.0	51.0
WS36	84	8	407.0									120.0	68.0	83.0

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.2-3 (cont'd)

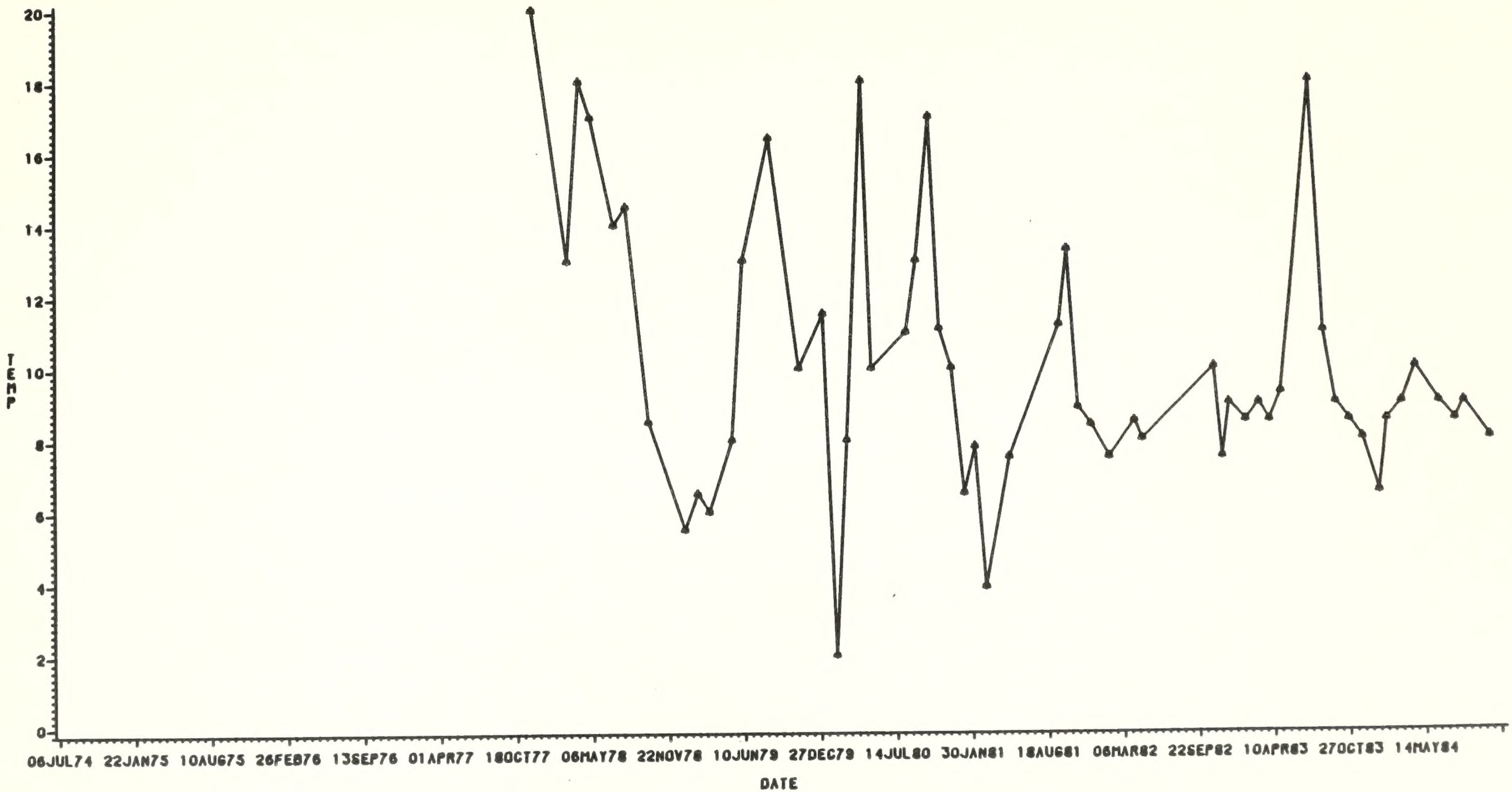
CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
SPRINGS

SPRING	YR	MO	SIO2 (MG/L)	CYAN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WS01	84	8	16.0												.20
WS02	84	8	15.0												.30
WS08	84	8	18.0												.40
WS09	84	8	17.0												.40
WS11	84	8	16.0												.40
WS12	84	8	18.0												8.00
WS13	84	8	19.0												8.20
WS36	84	8	15.0												.30

NOTE: - INDICATES LESS THAN

TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

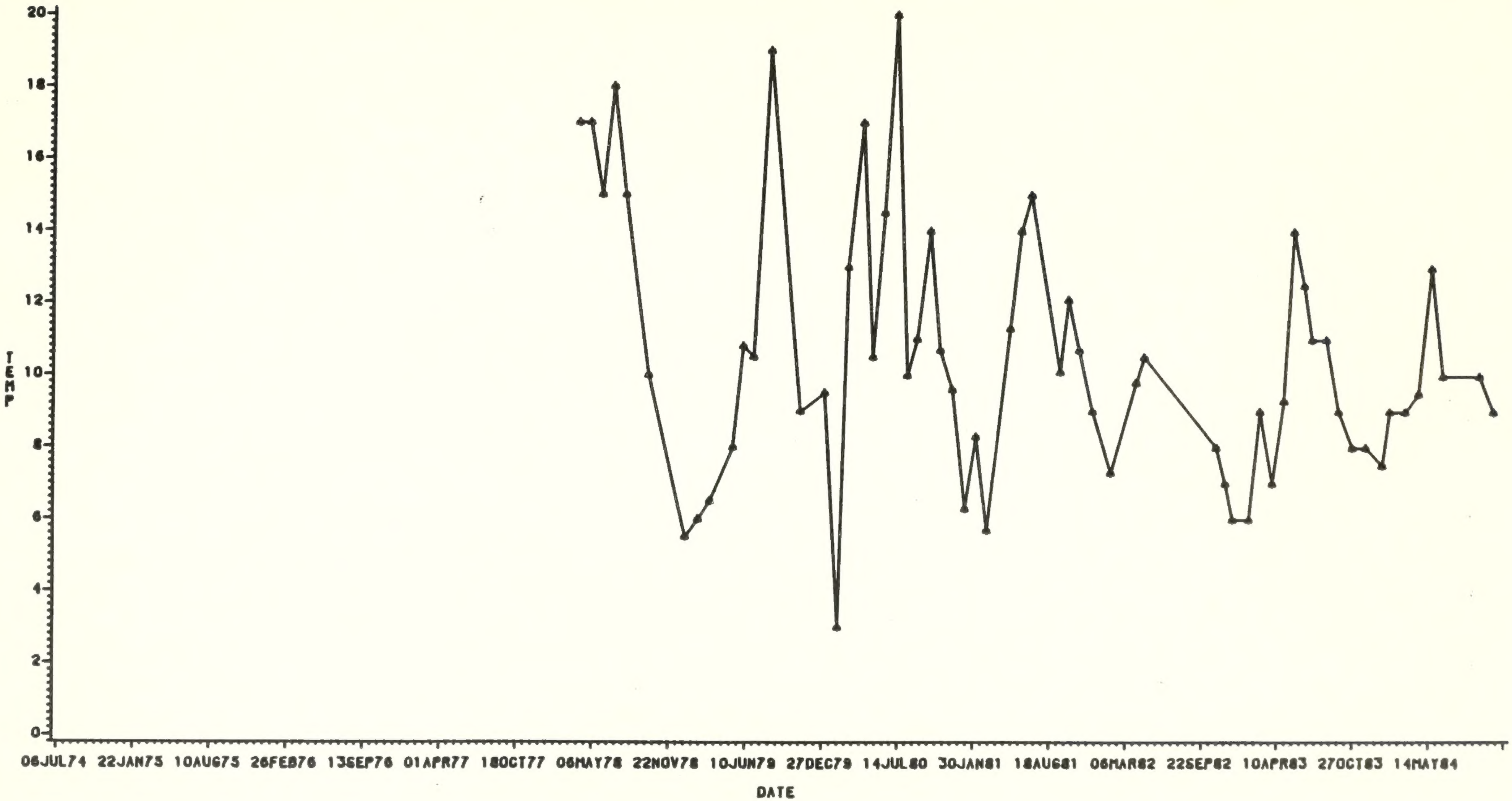
LOC=WS01



TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

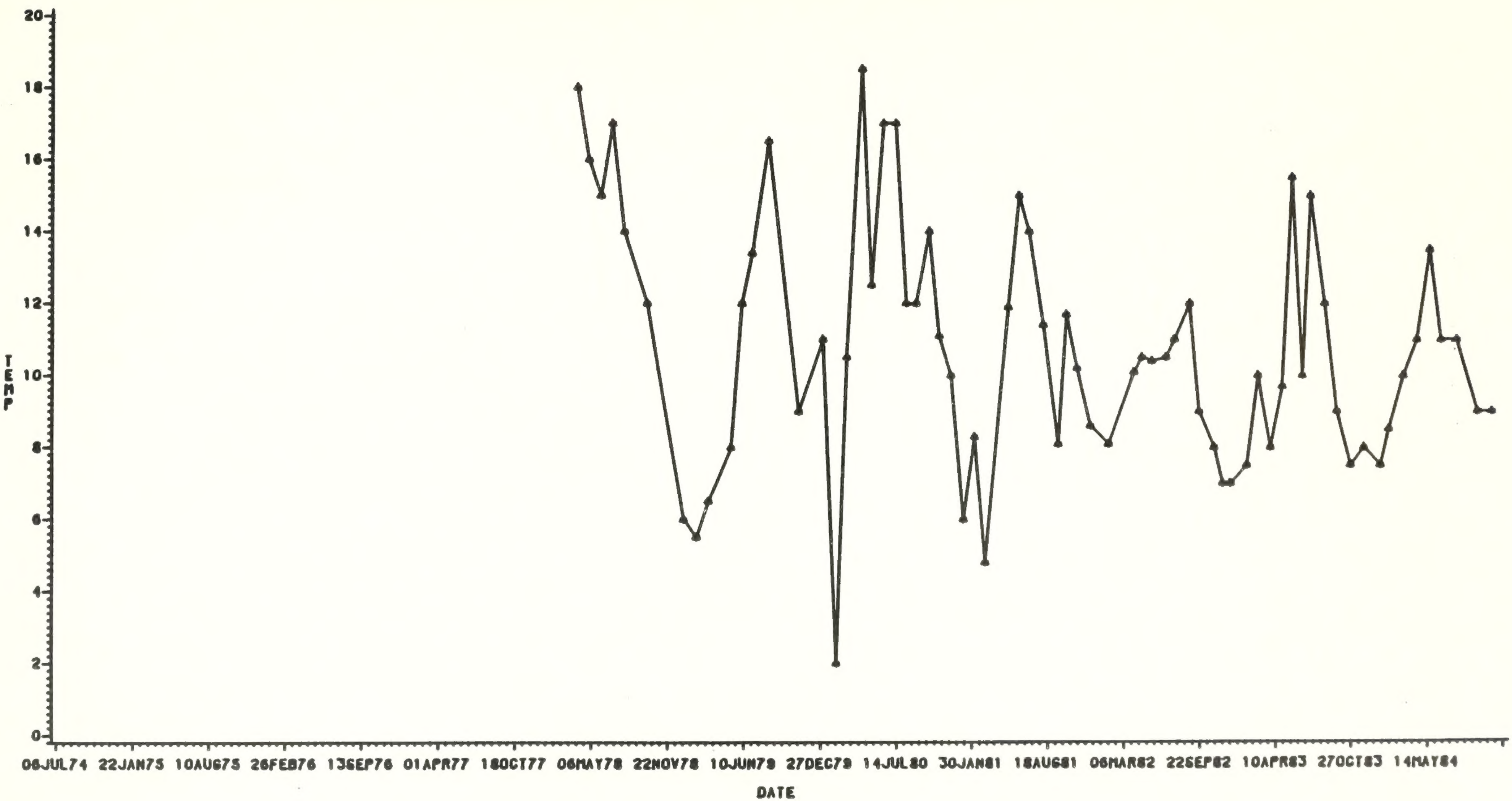
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS02



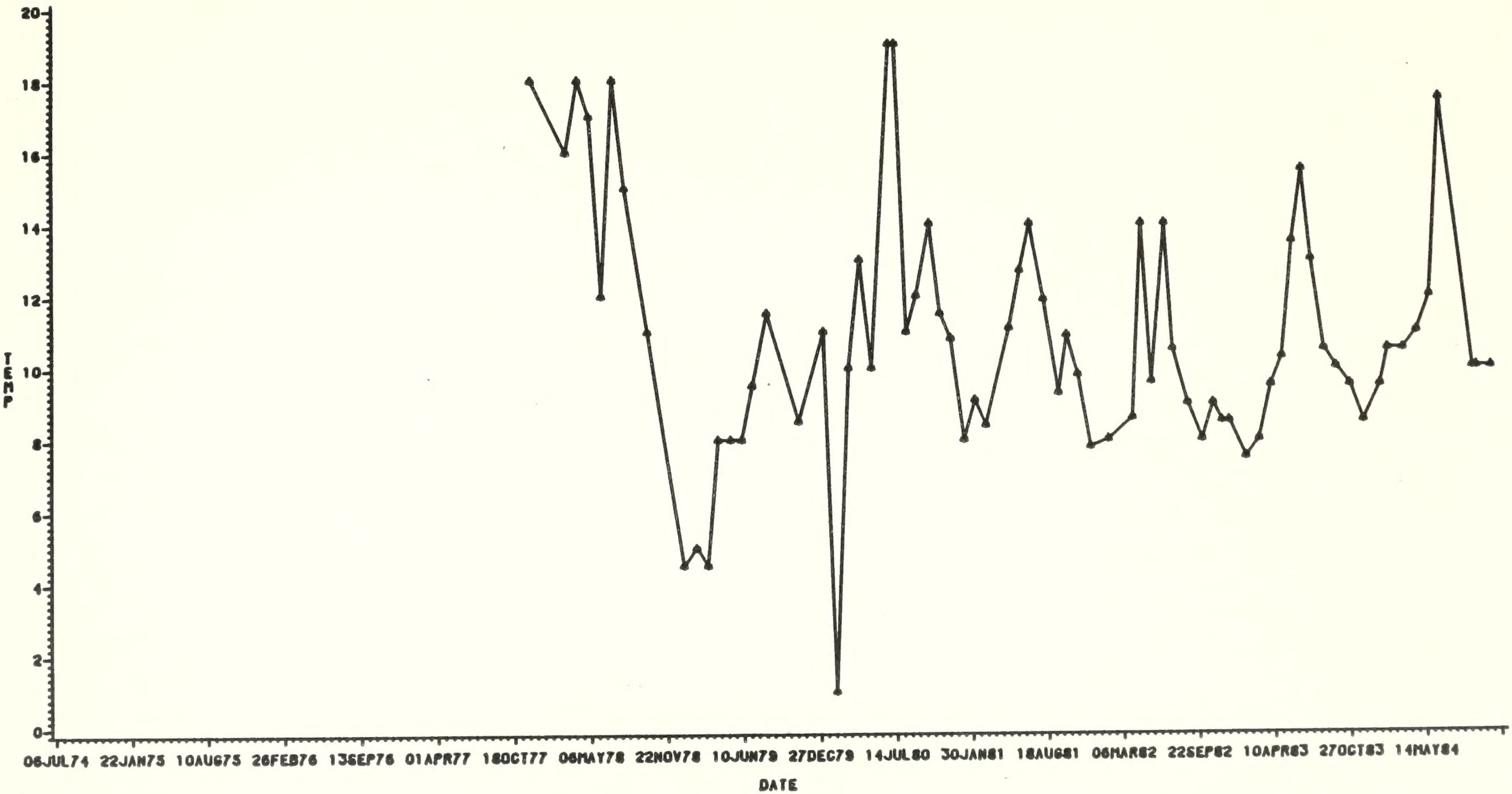
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS04



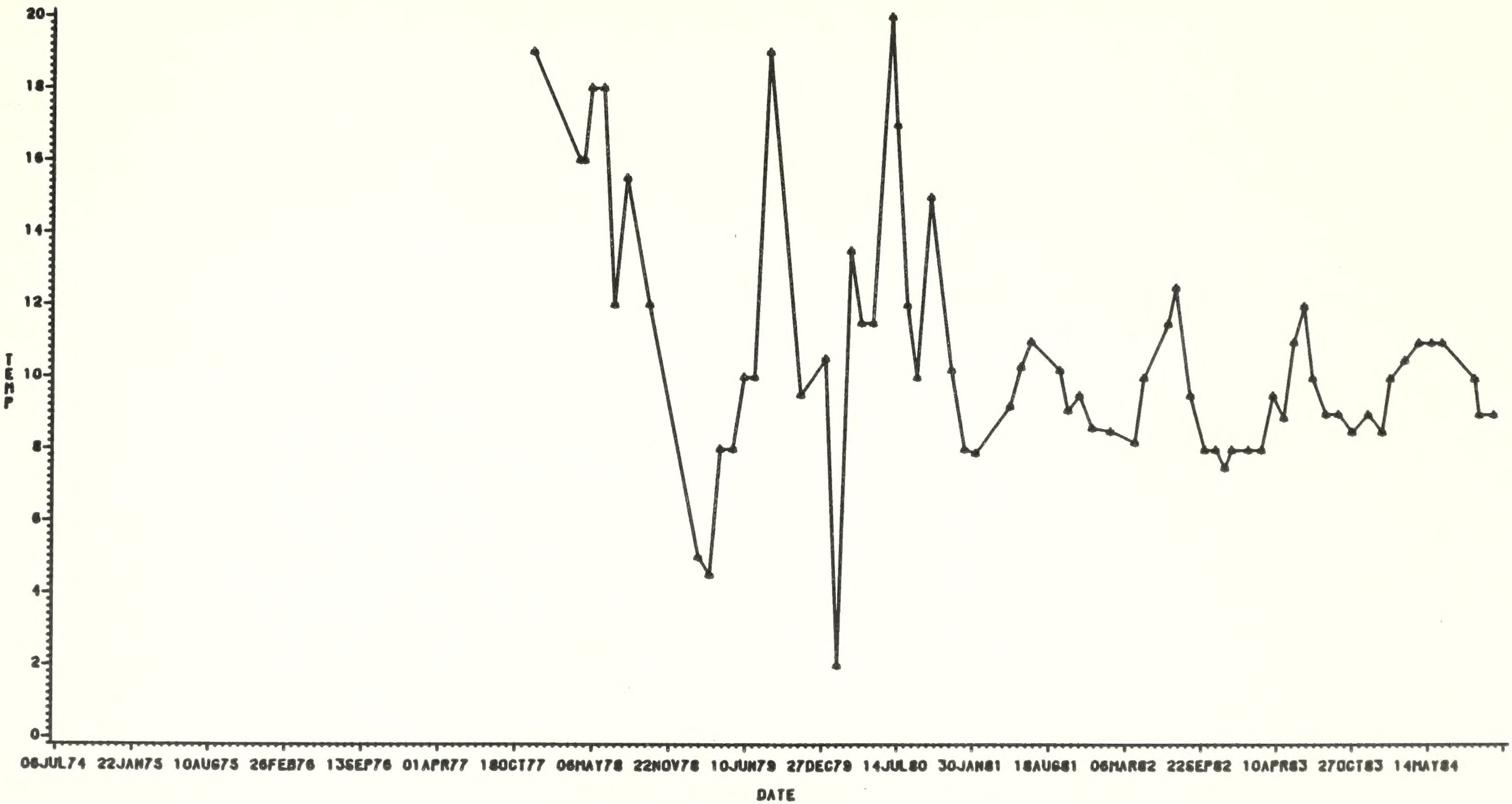
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS06



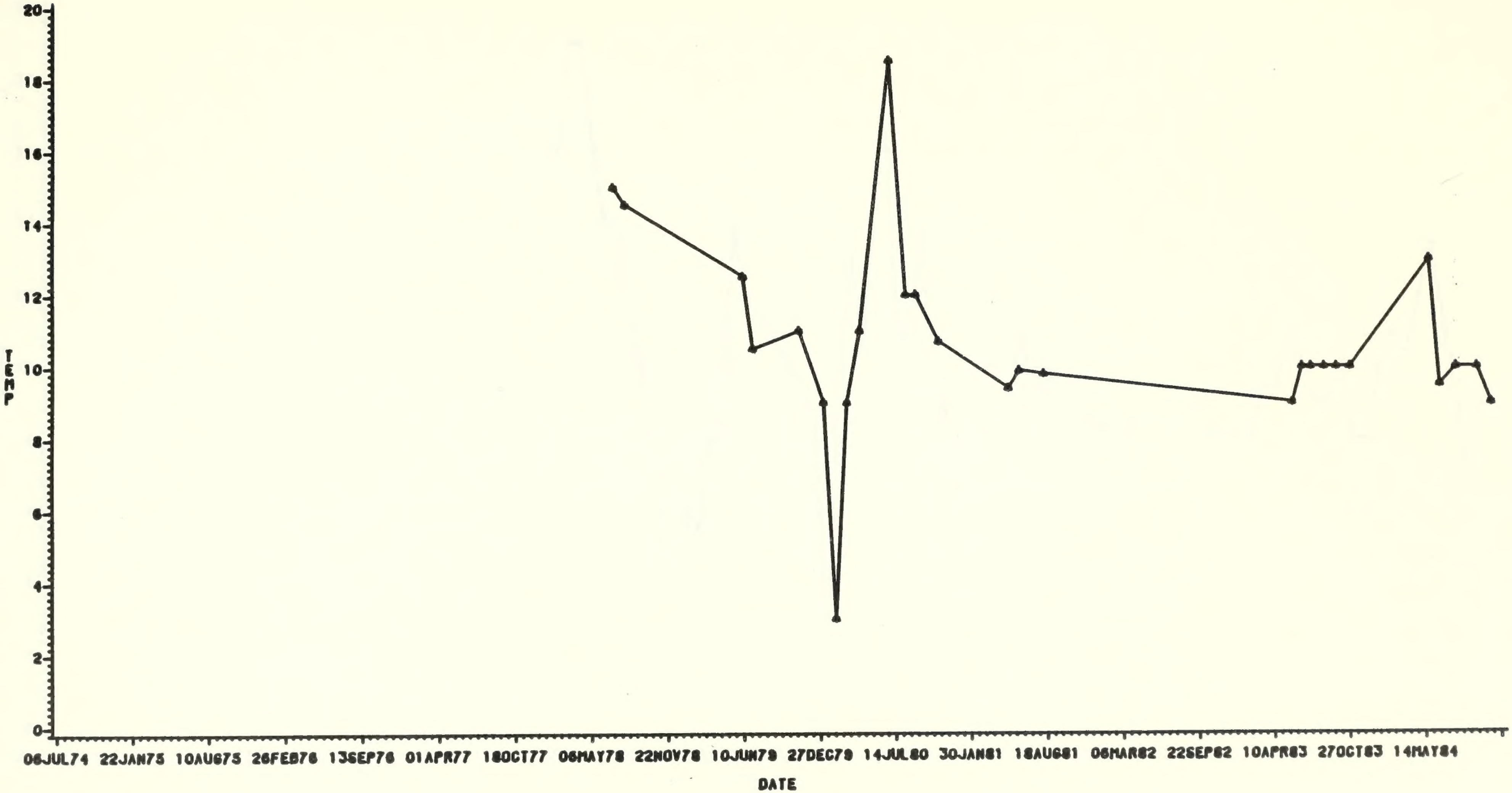
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS07



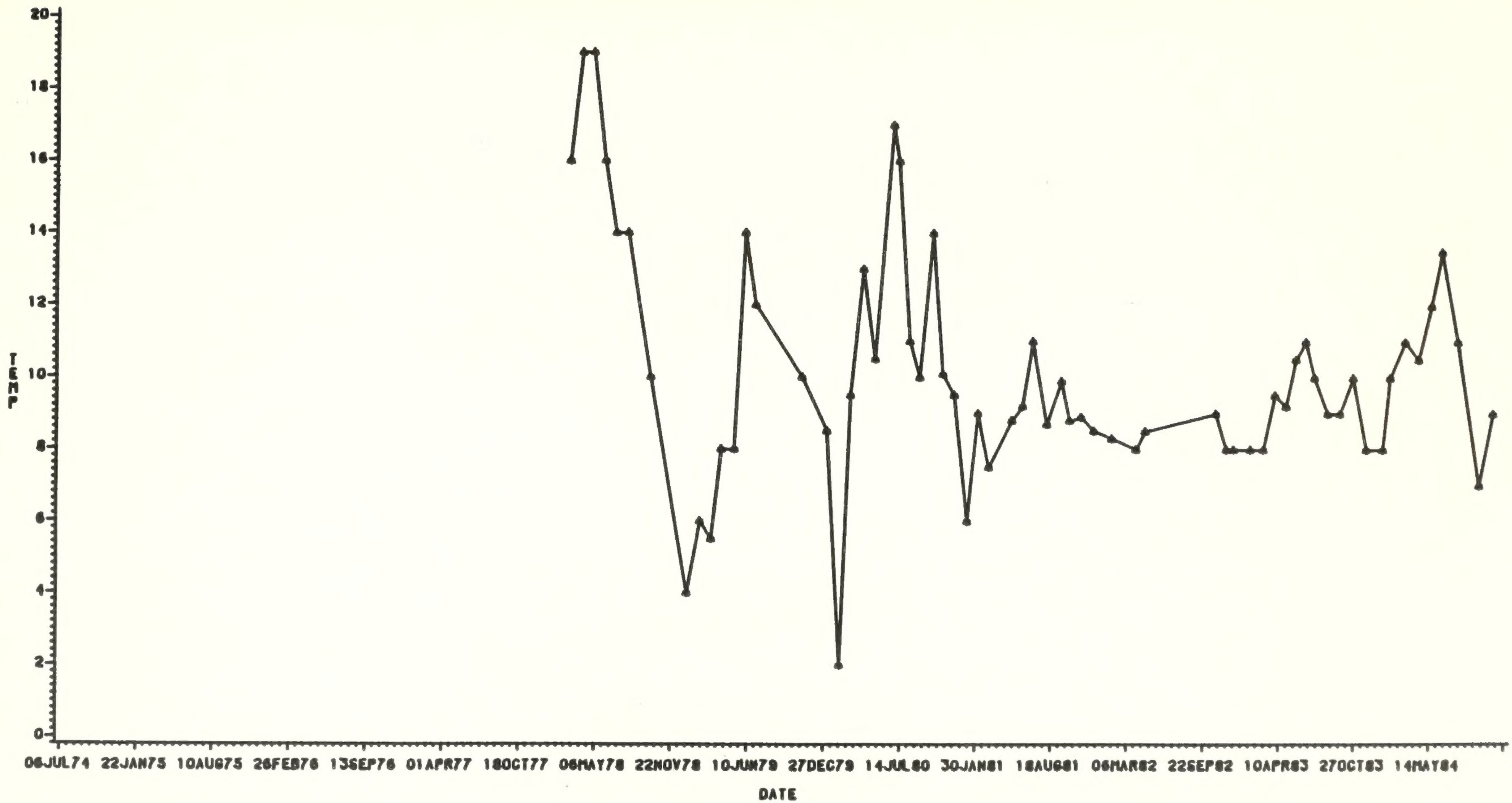
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS08



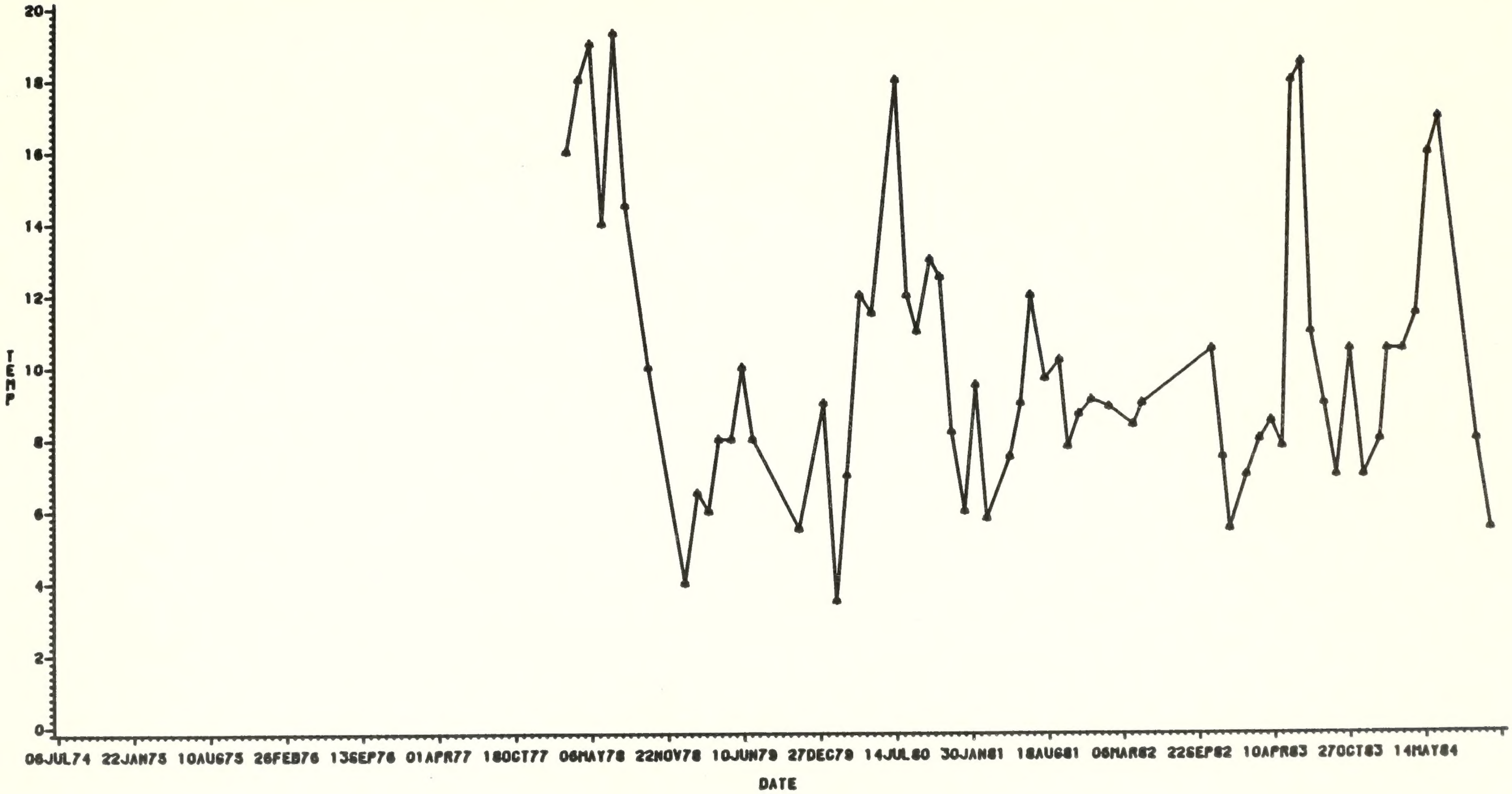
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS09



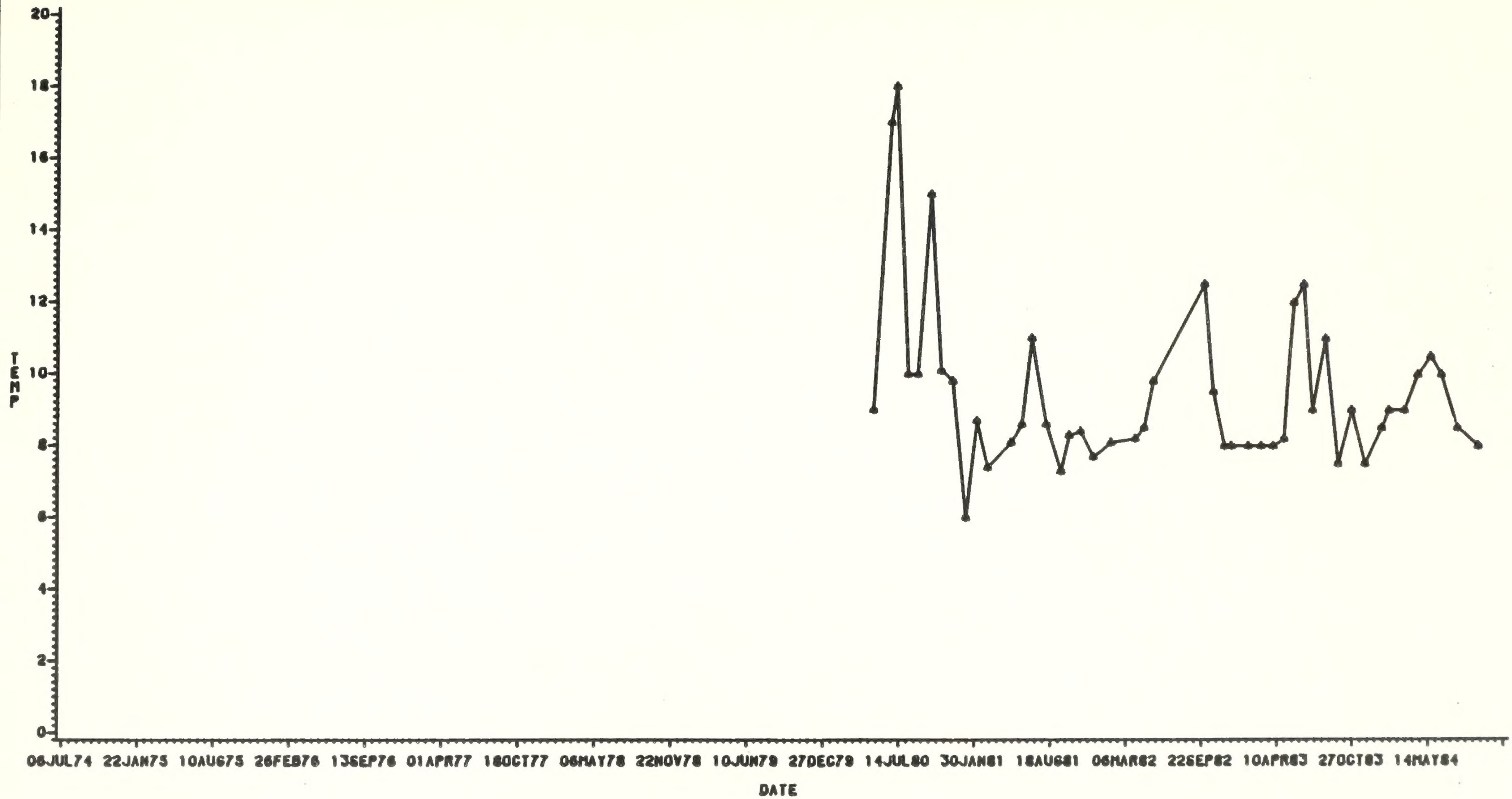
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS10



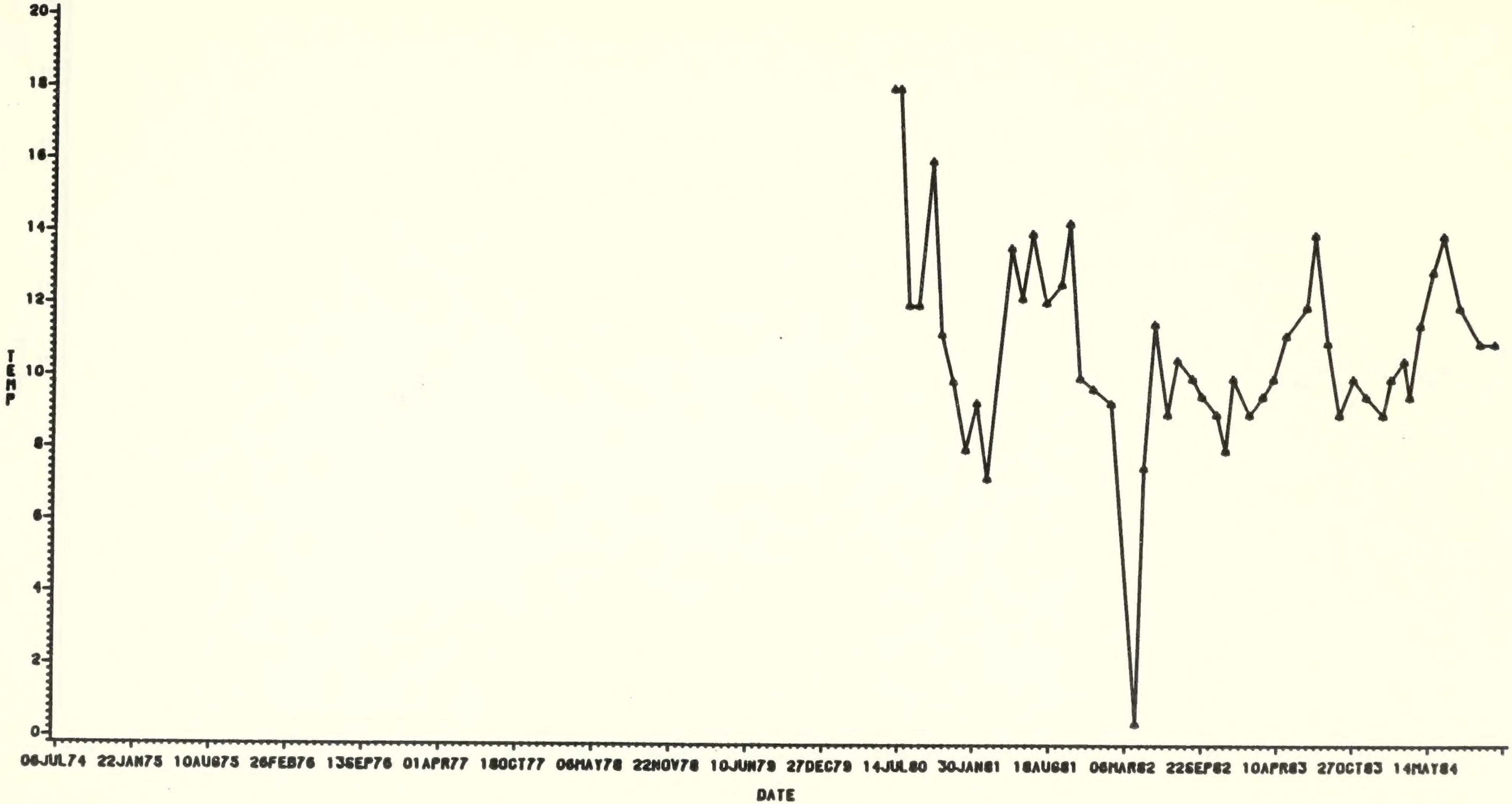
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS11



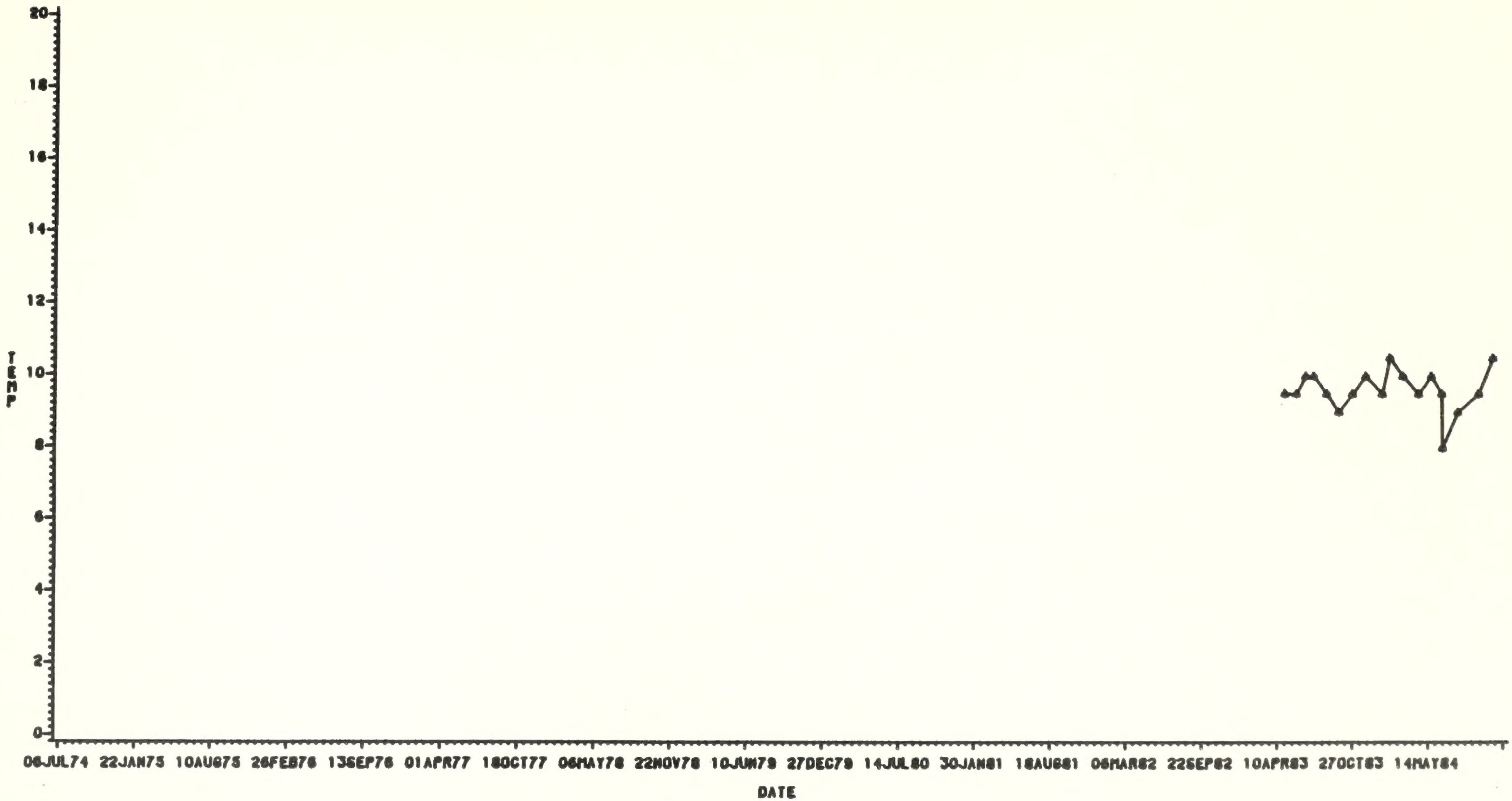
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS12



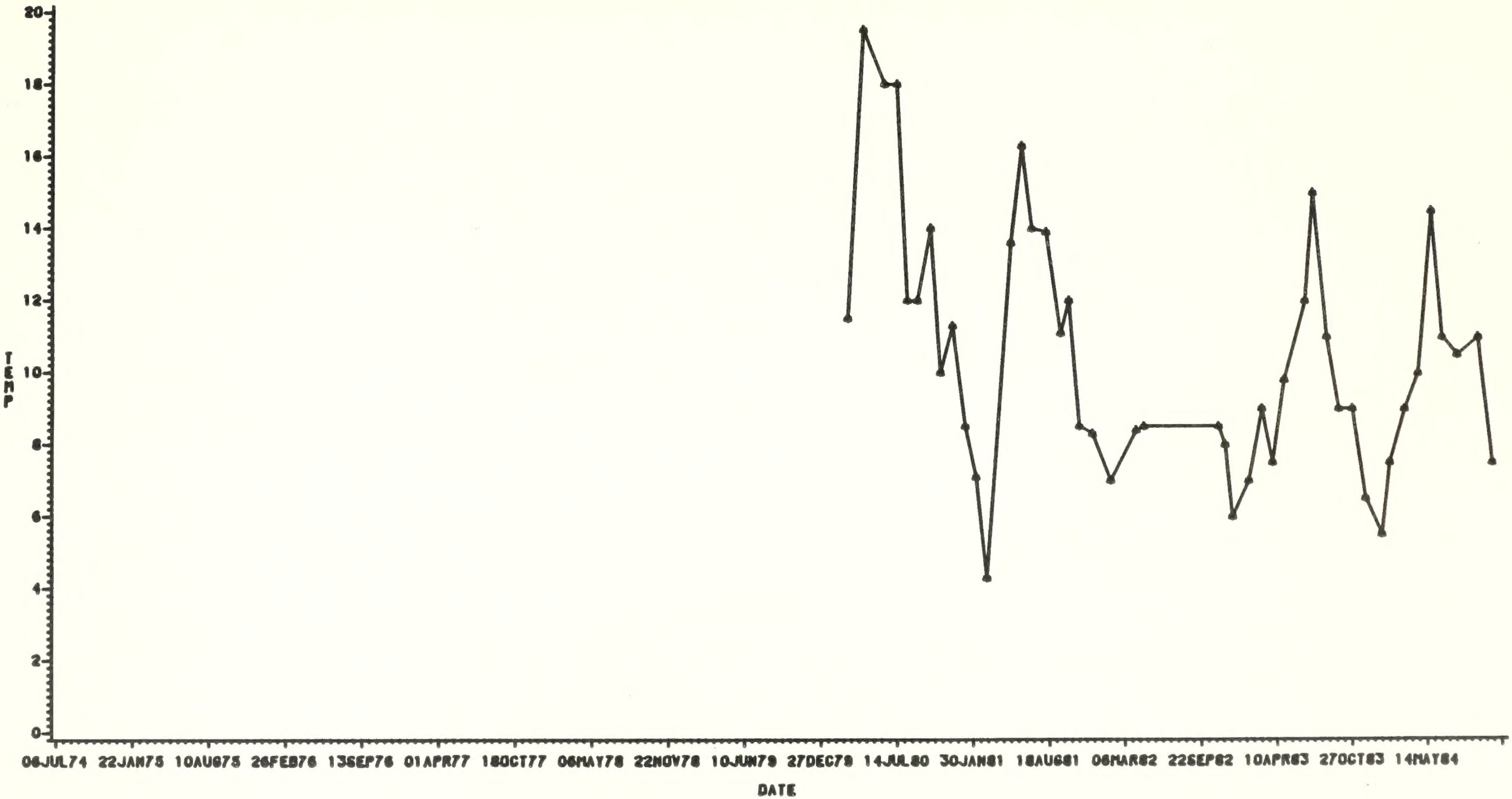
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

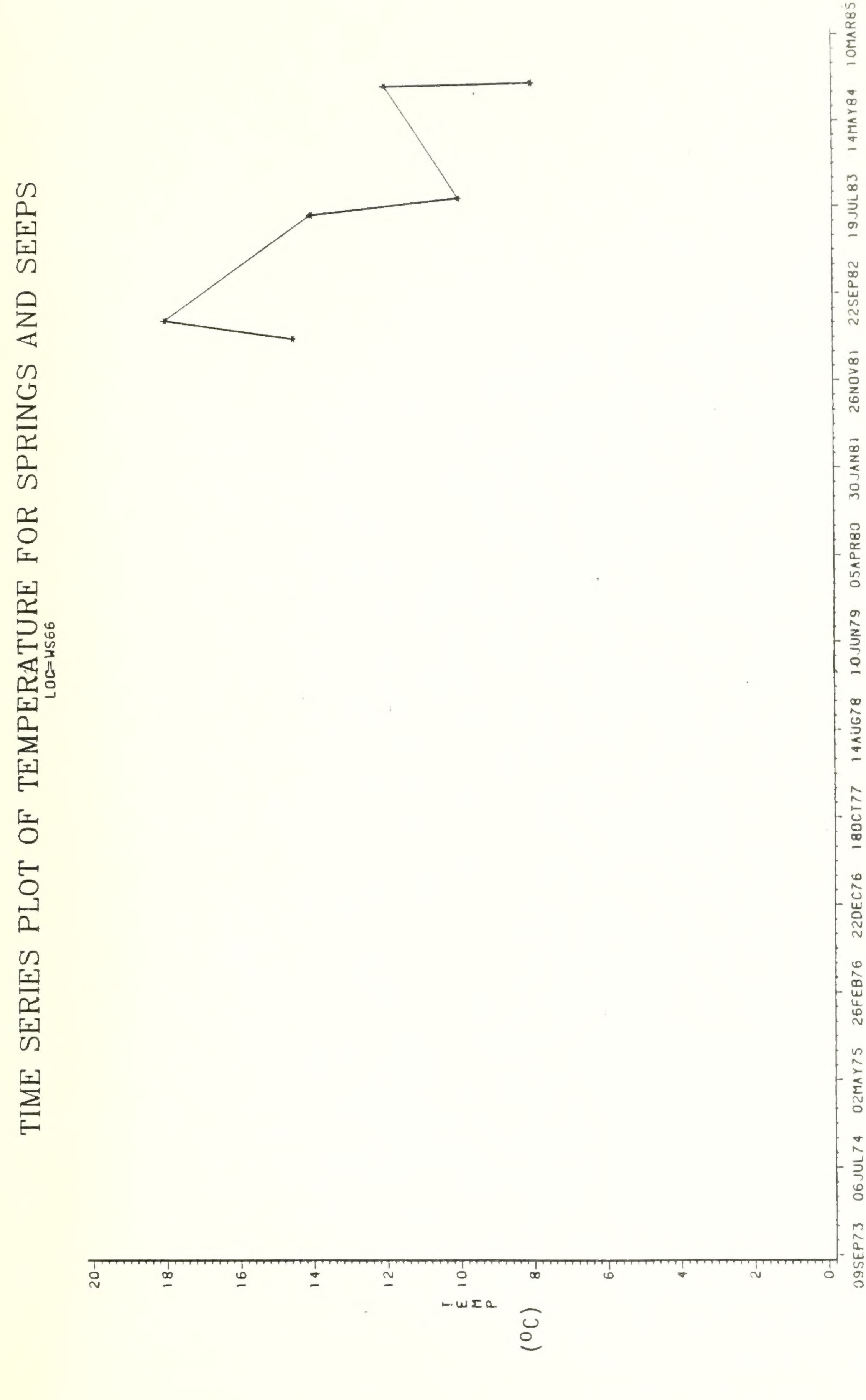
LOC=WS13



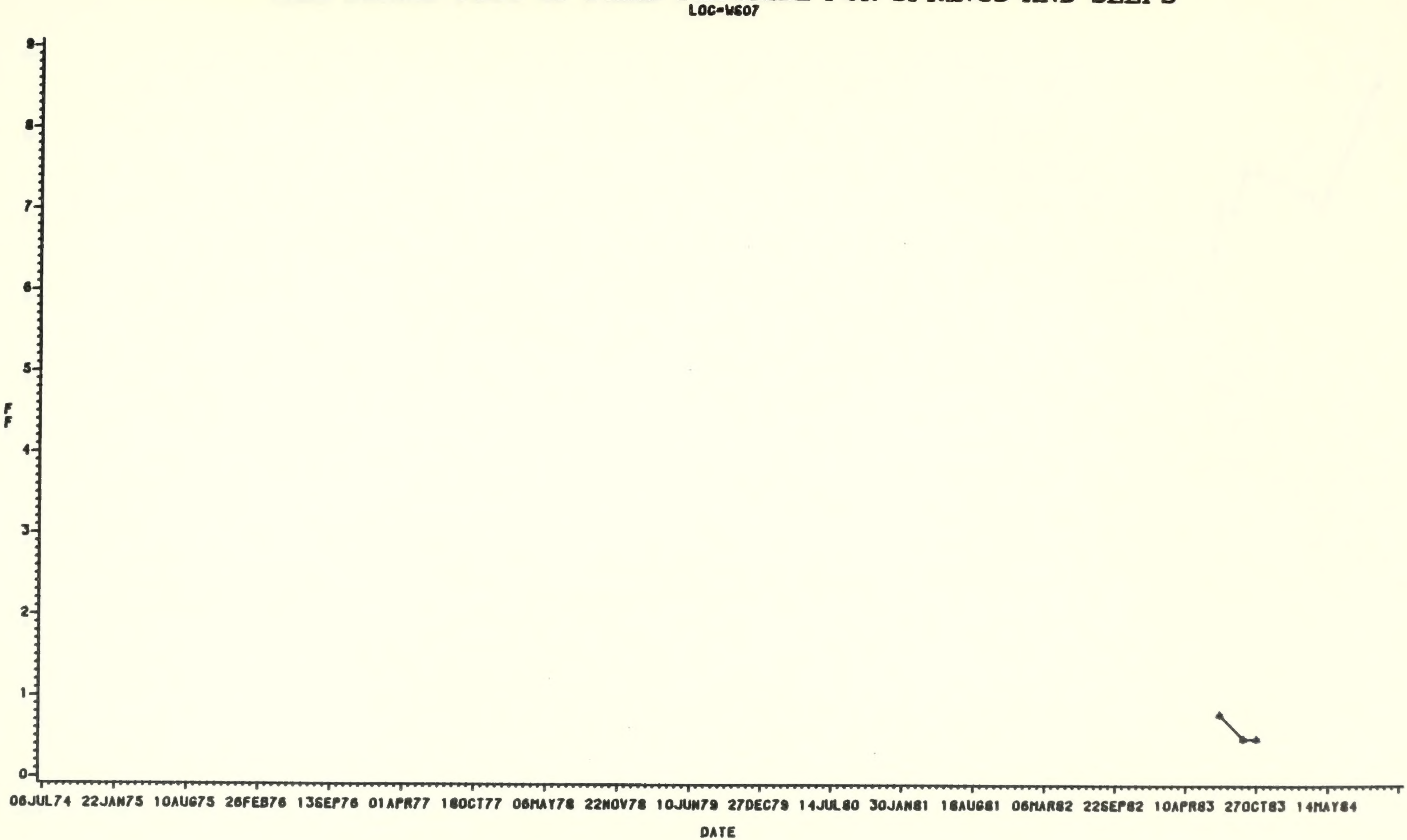
TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS

LOC=WS36



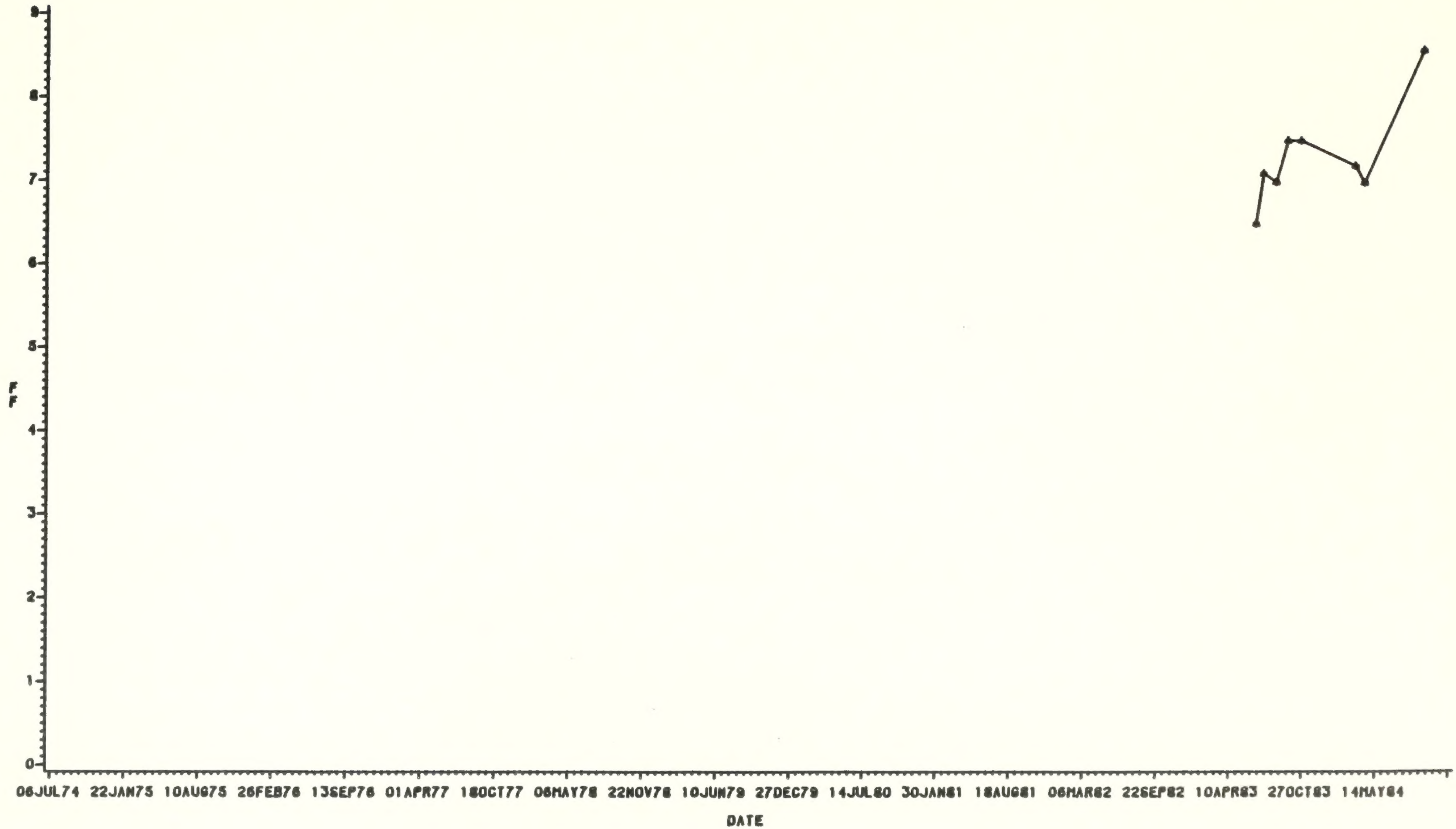

TIME SERIES PLOT OF TEMPERATURE FOR SPRINGS AND SEEPS
LOC=WS66
TEMP
(°C)
0
2
4
6
8
10
12
14
16
18
20
09SEP73
06JUL74
02MAY75
26FEB76
22DEC76
18OCT77
14AUG78
10JUN79
05APR80
30JAN81
26NOV81
22SEP82
19JUL83
14MAY84
10MAR85
DATE

TIME SERIES PLOT OF FIELD FLUORIDE FOR SPRINGS AND SEEPS



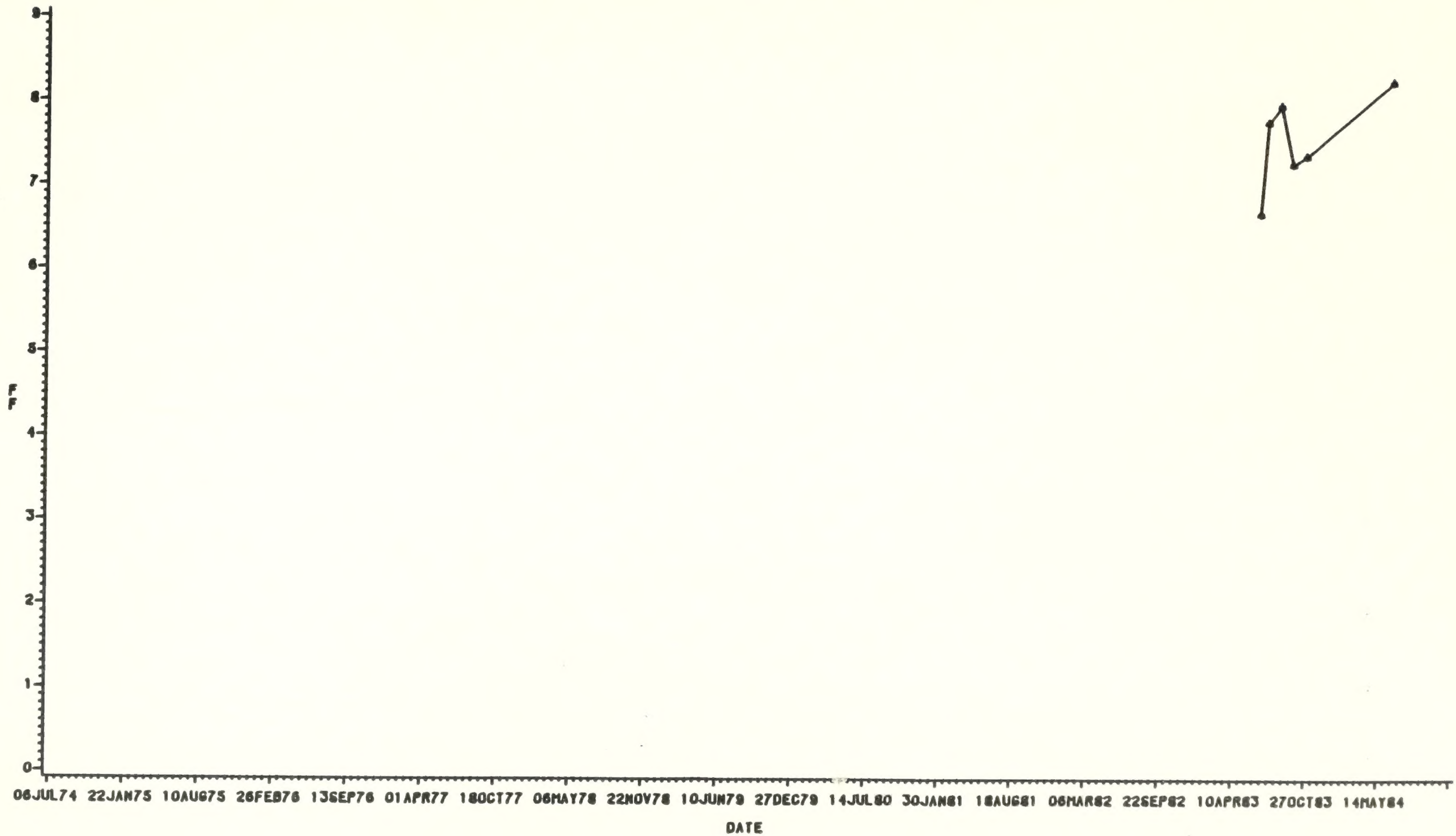
TIME SERIES PLOT OF FIELD FLUORIDE FOR SPRINGS AND SEEPS

LOC=WS12



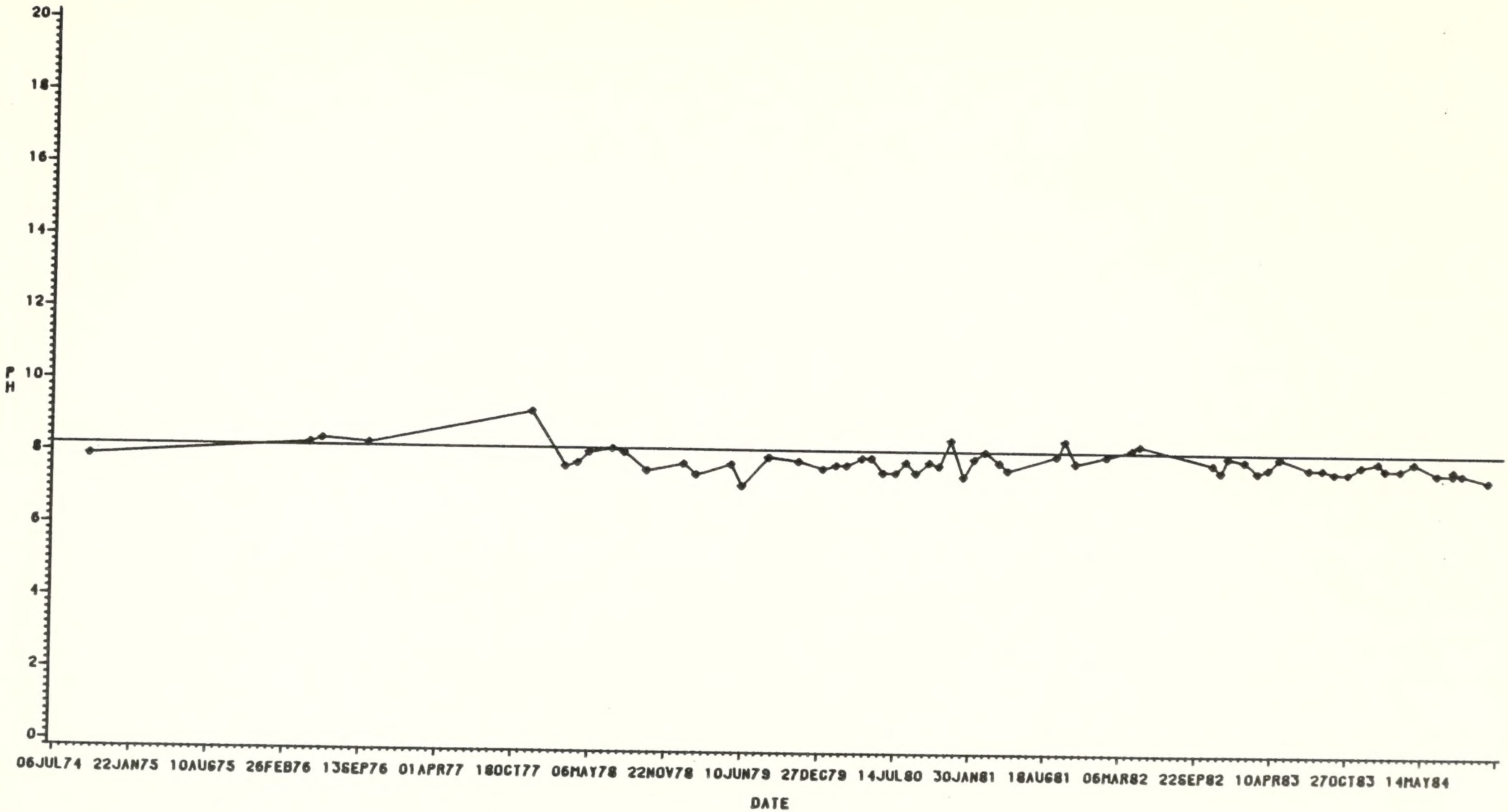
TIME SERIES PLOT OF FIELD FLUORIDE FOR SPRINGS AND SEEPS

LOC=WS13



TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC=WS01



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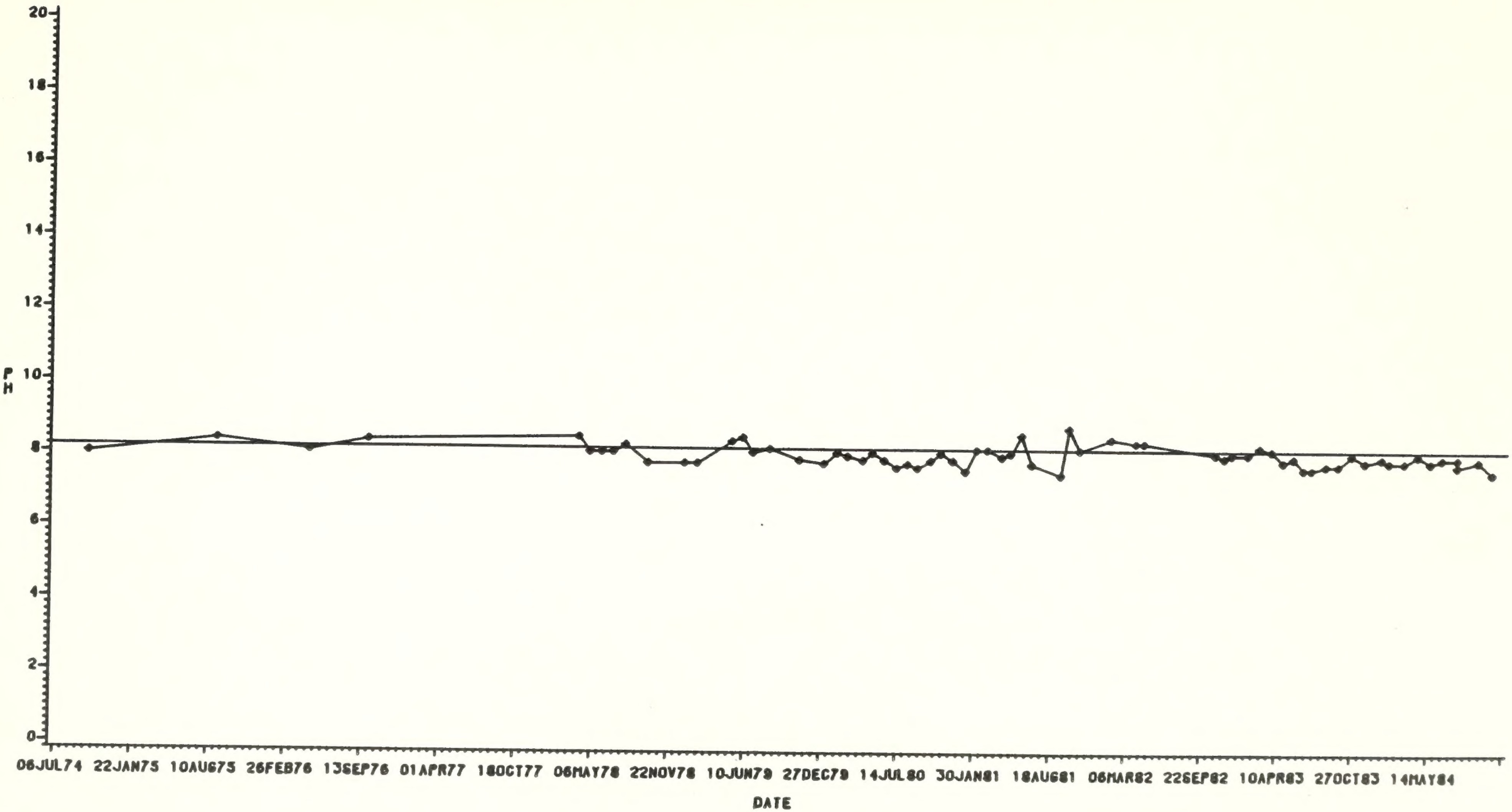
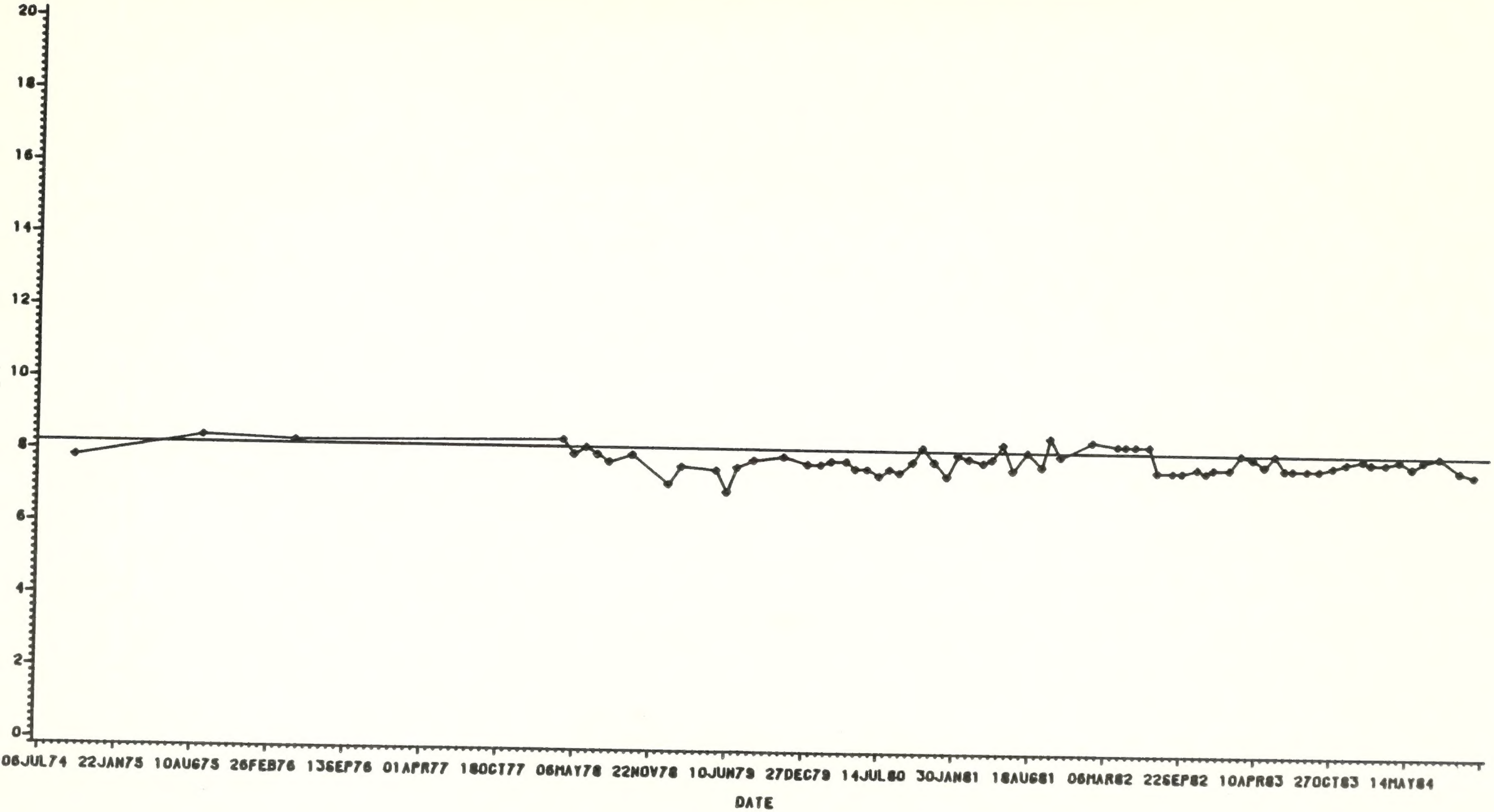
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS
LOC=WS02



--- (BASELINE MEAN 8.2 UNITS)

TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC=WS04



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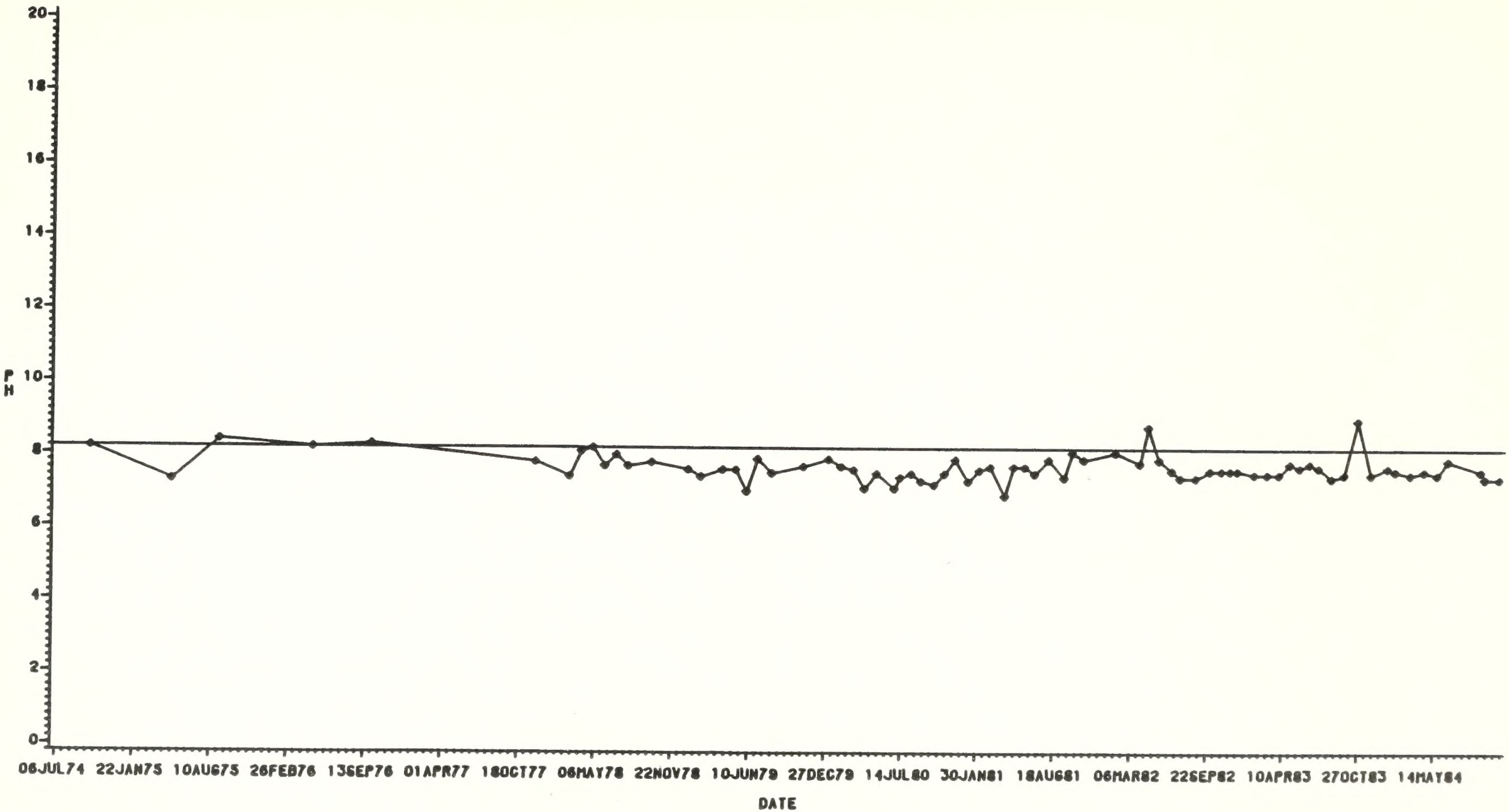
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

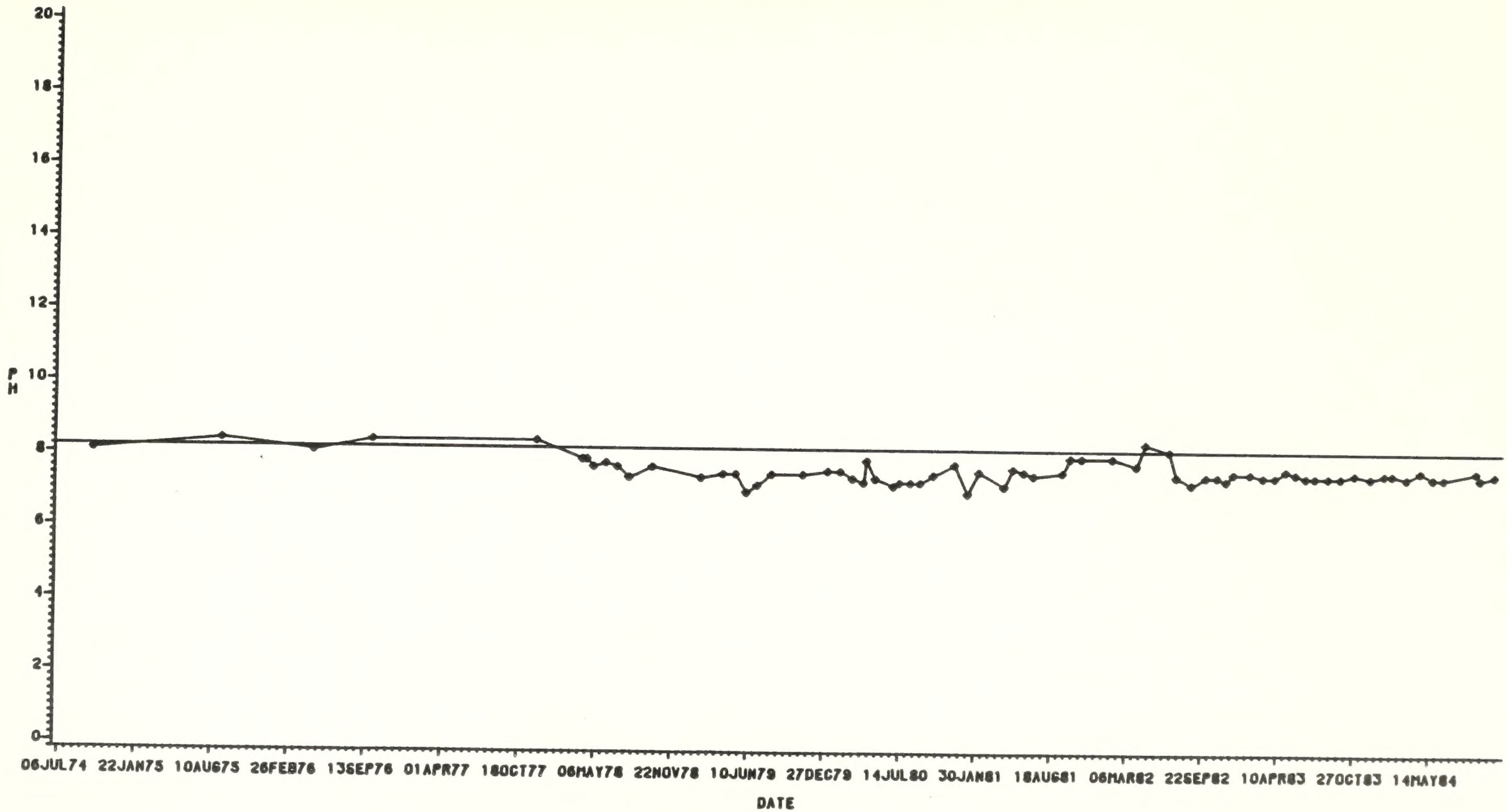
LOC=WS06



---(BASELINE MEAN 8.2 UNITS)

TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

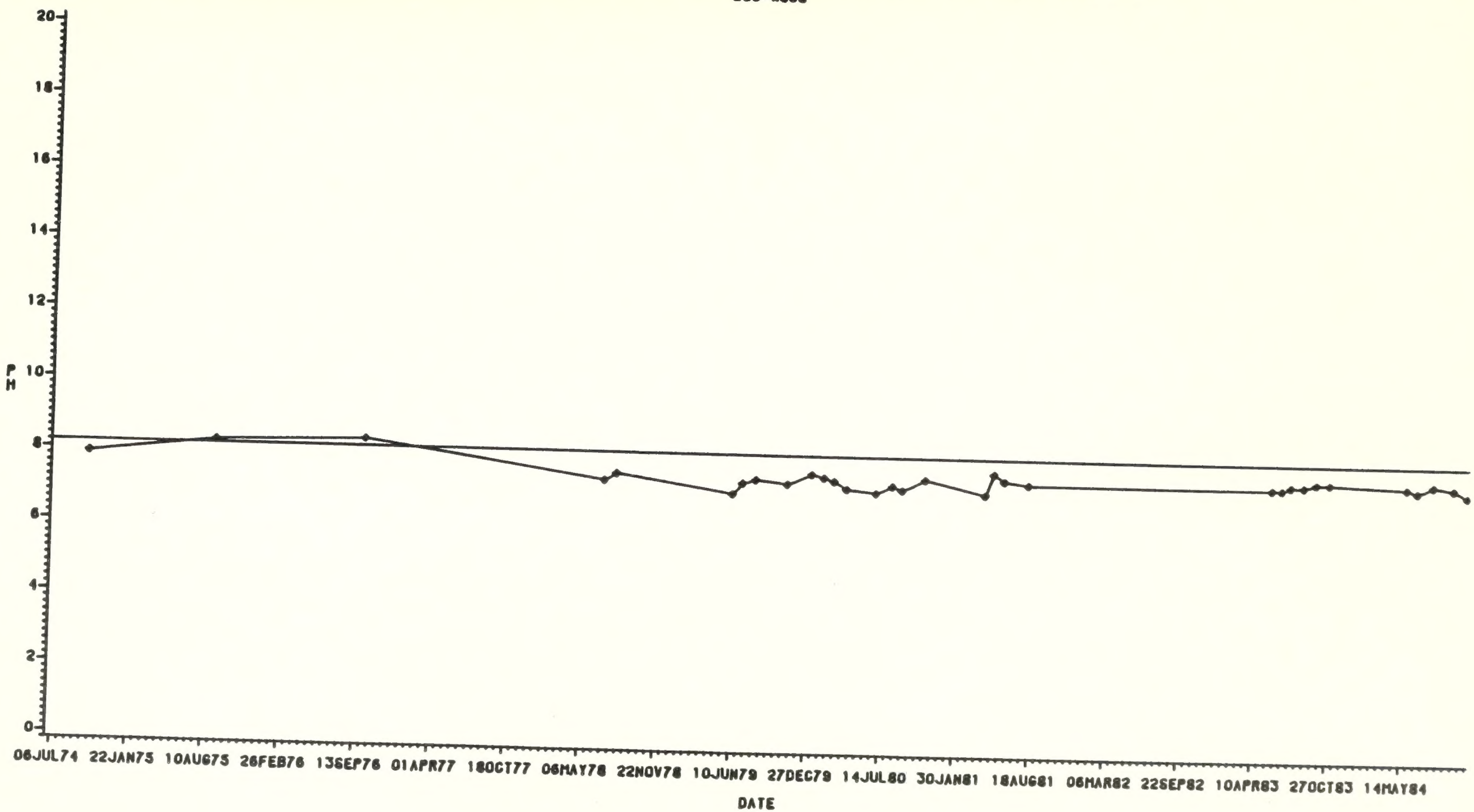
LOC=WS07



--- (BASELINE MEAN 8.2 UNITS)

TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC-WS08



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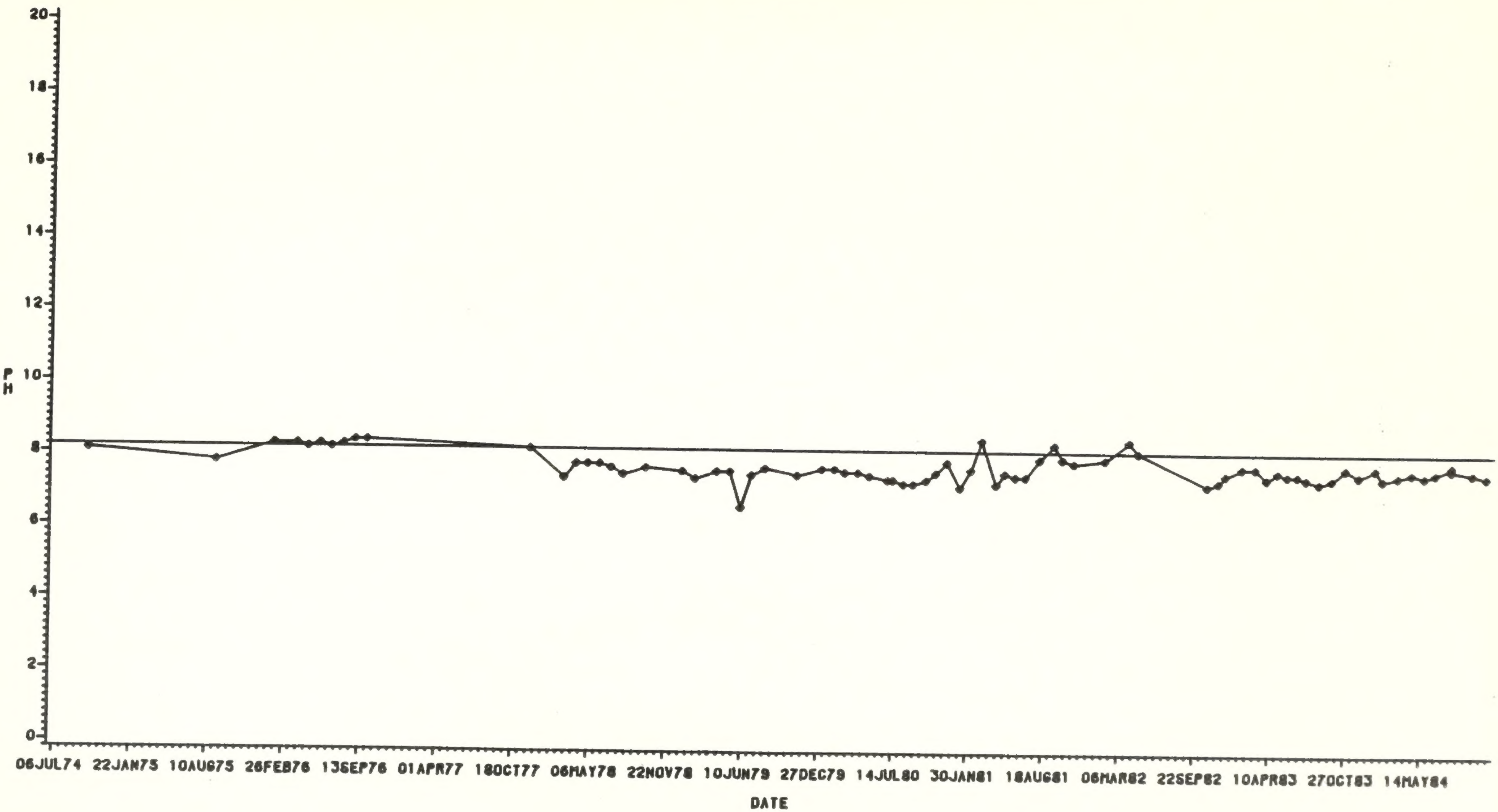
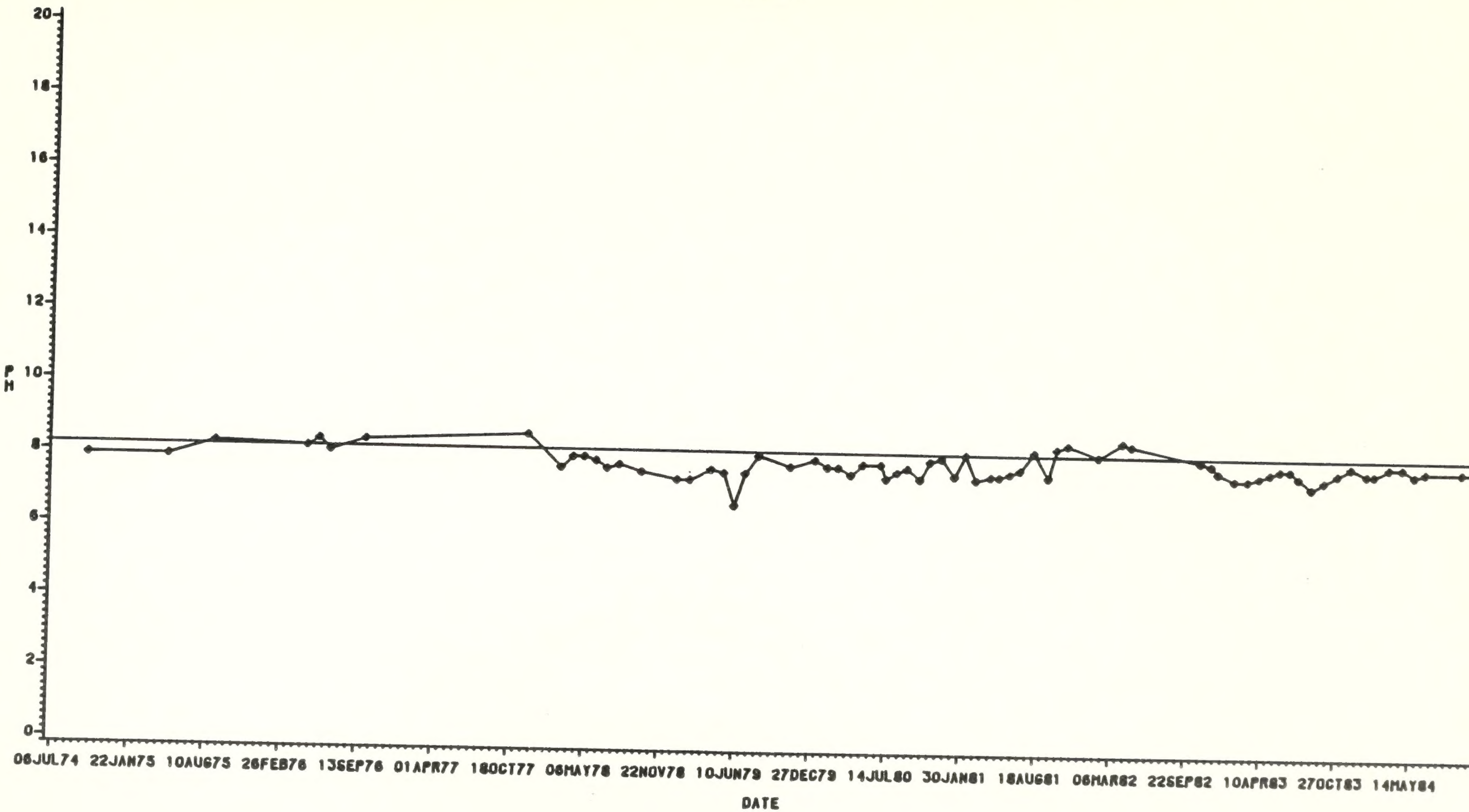
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC=WS09



TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS
LOC-WS10



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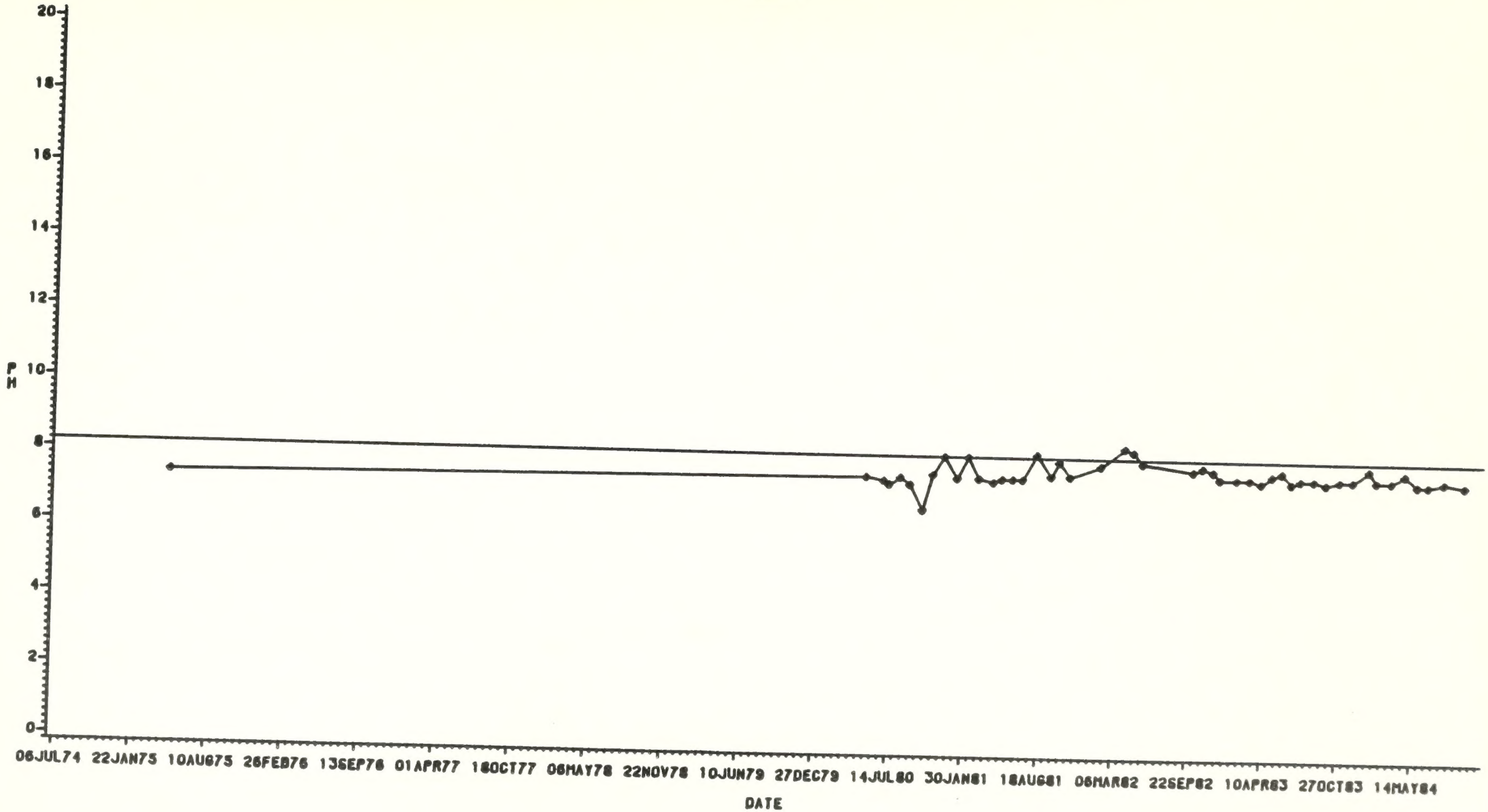
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

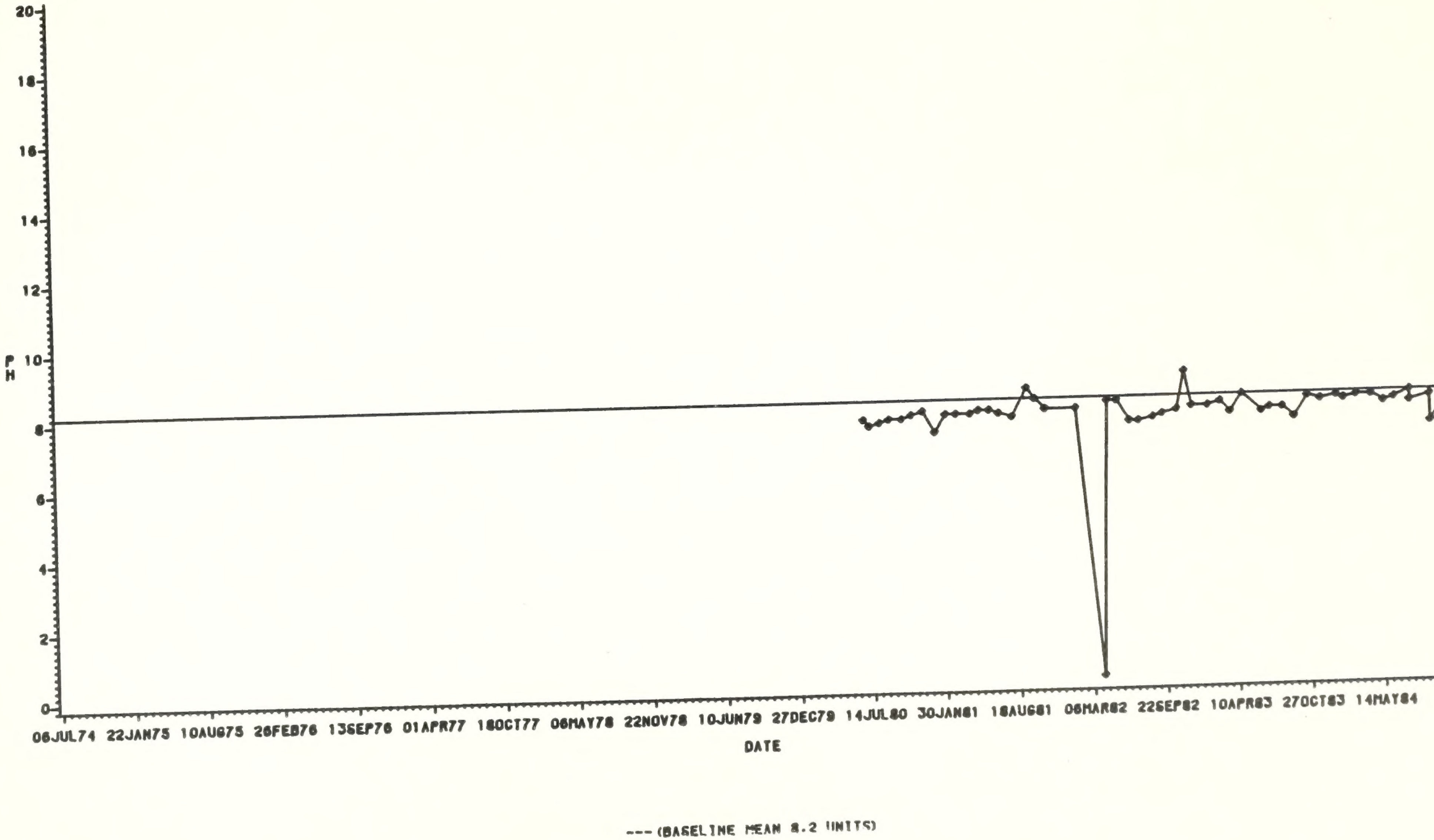
LOC=WS11



--- (BASELINE MEAN 8.2 UNITS)

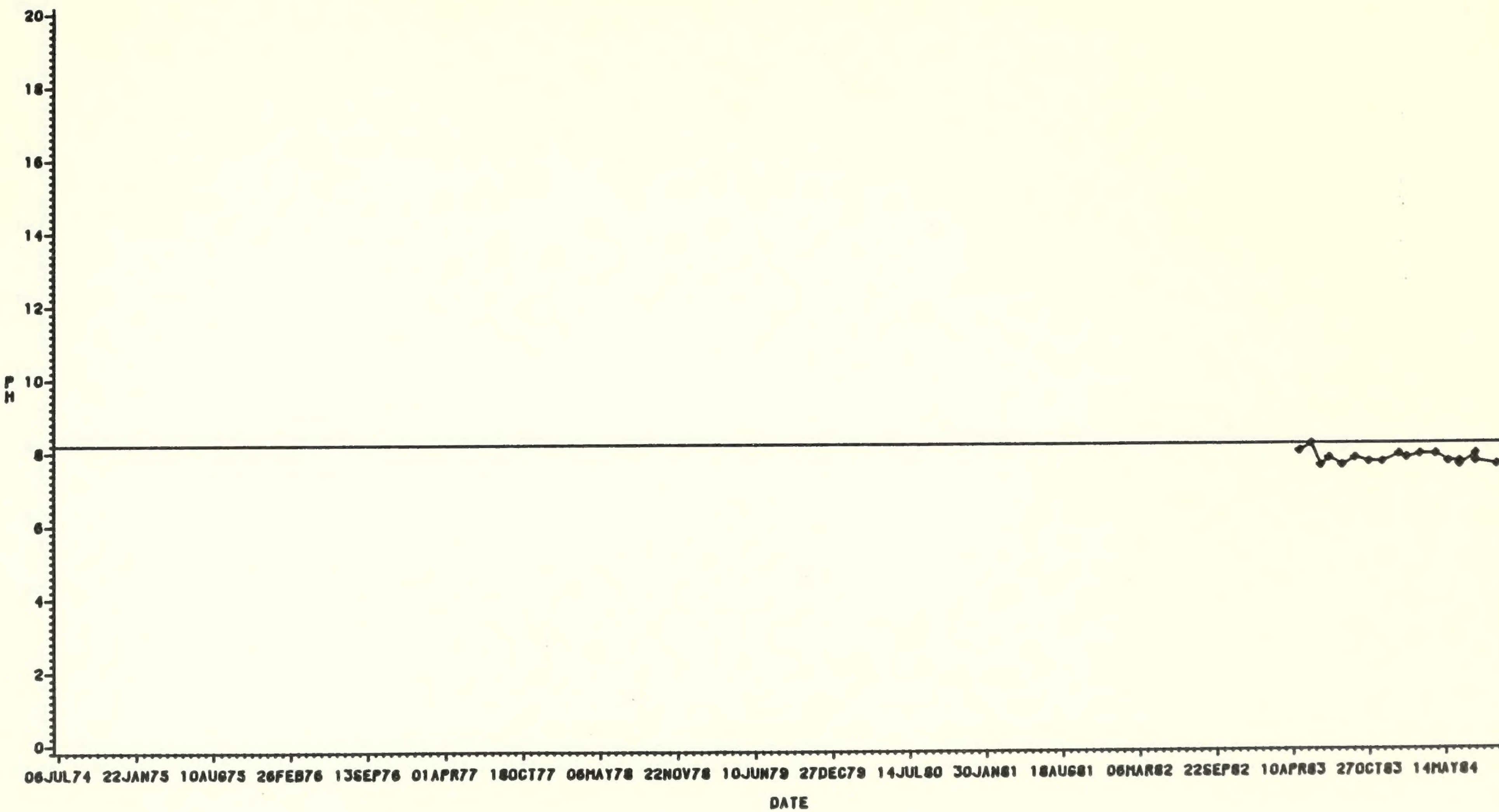
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC=WS12



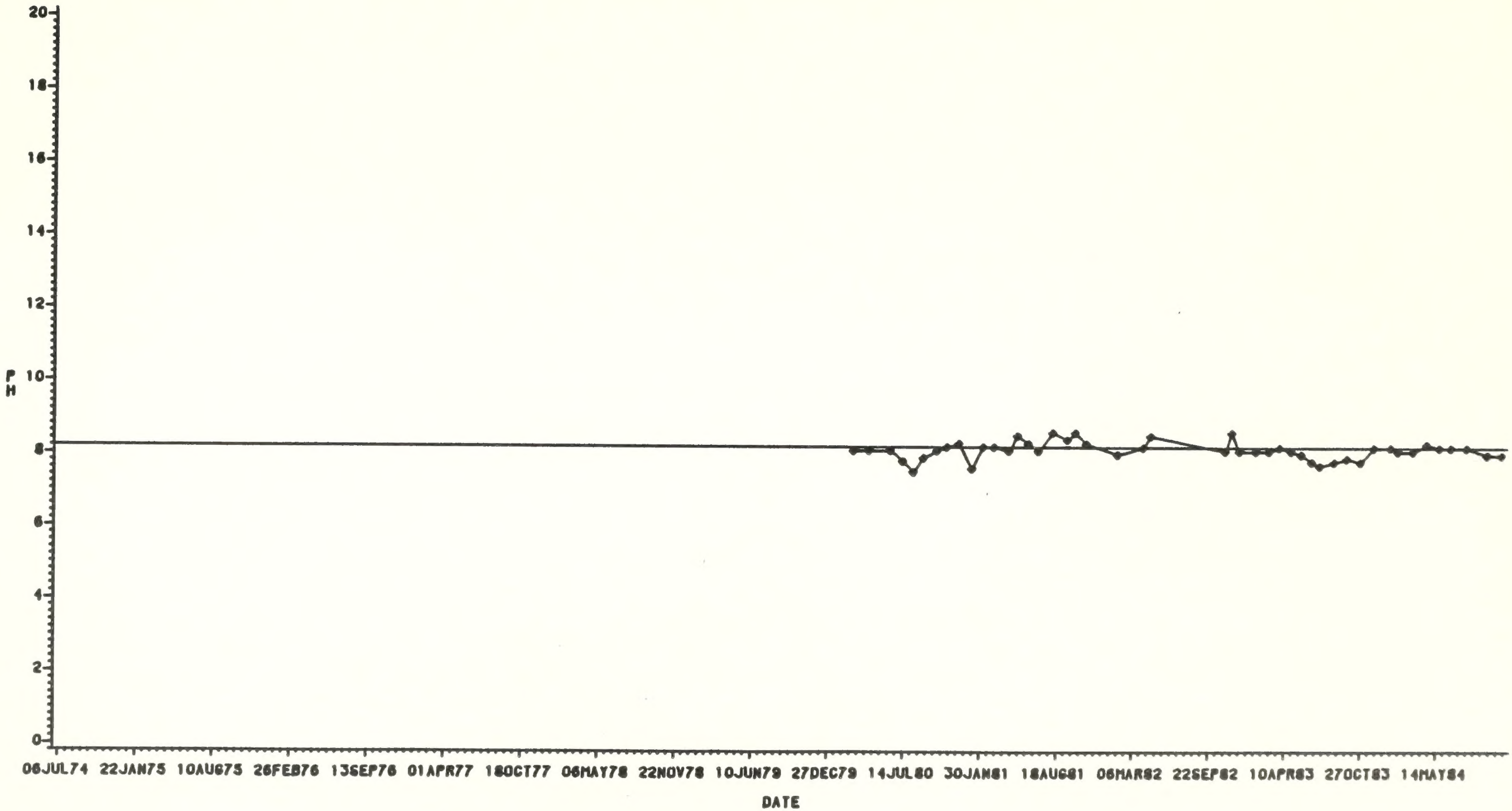
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC=WS13



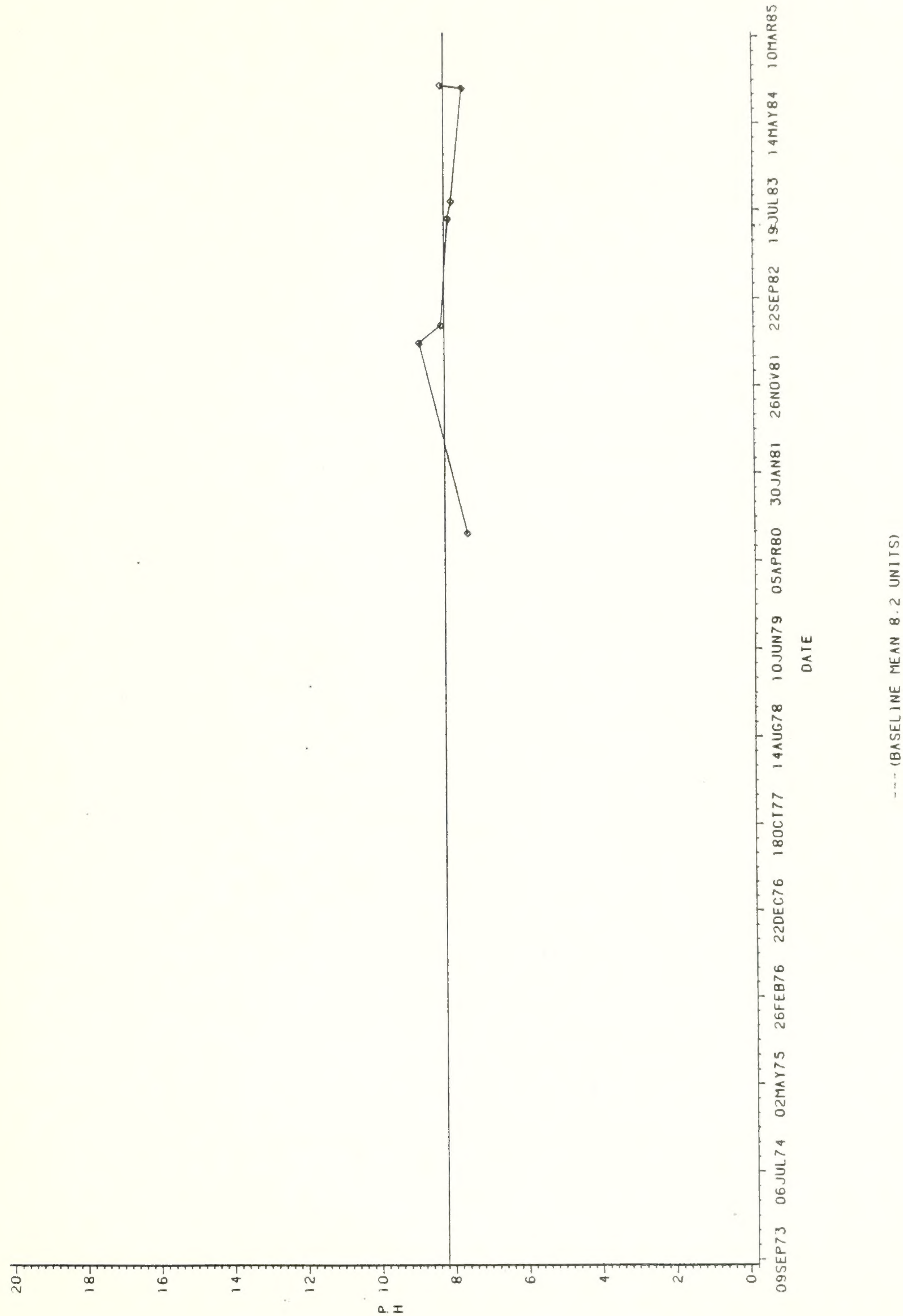
TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS

LOC=WS36



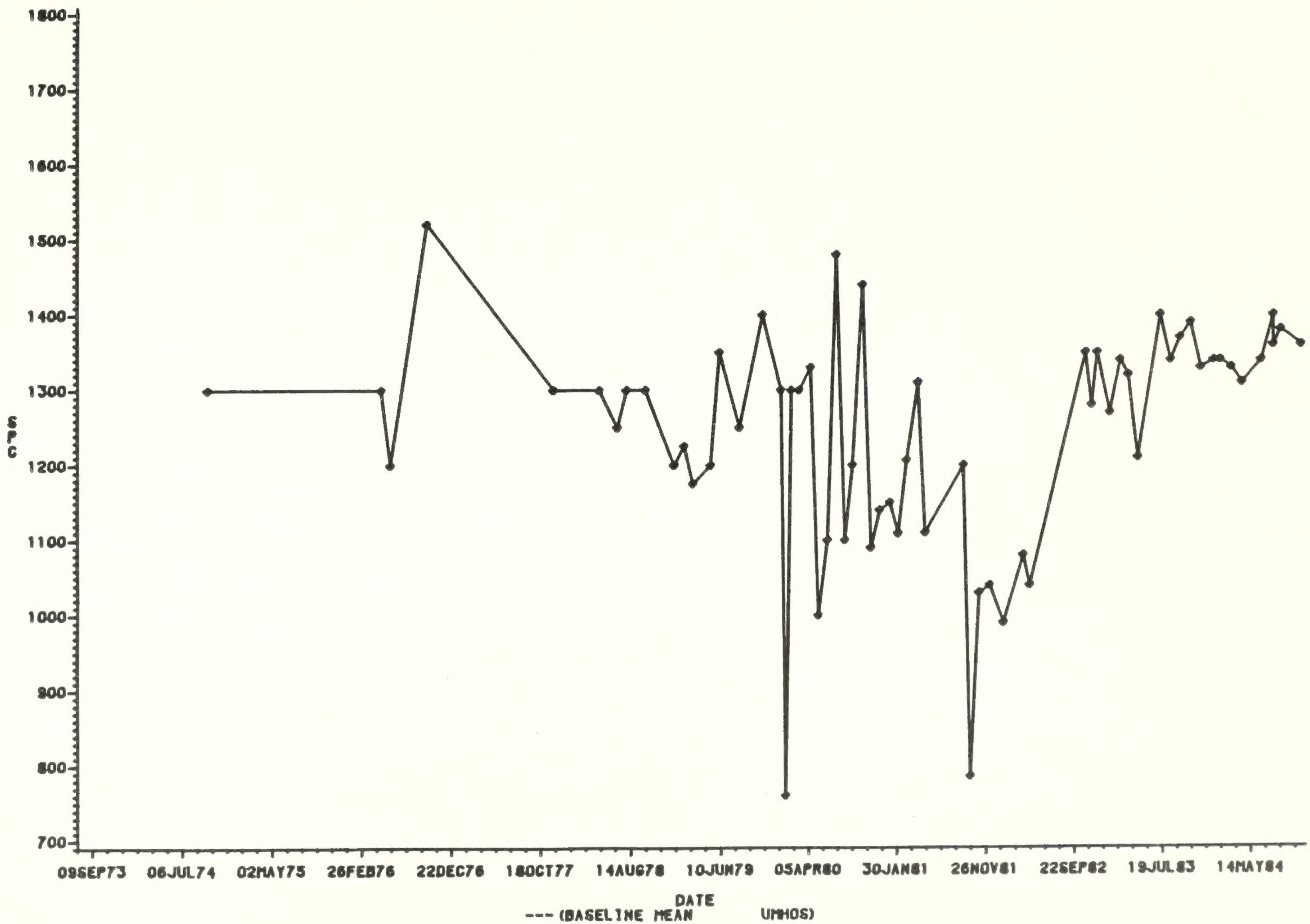
--- (BASELINE MEAN 8.2 UNITS)

TIME SERIES PLOT OF PH FOR SPRINGS AND SEEPS
LOC=WS66



TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

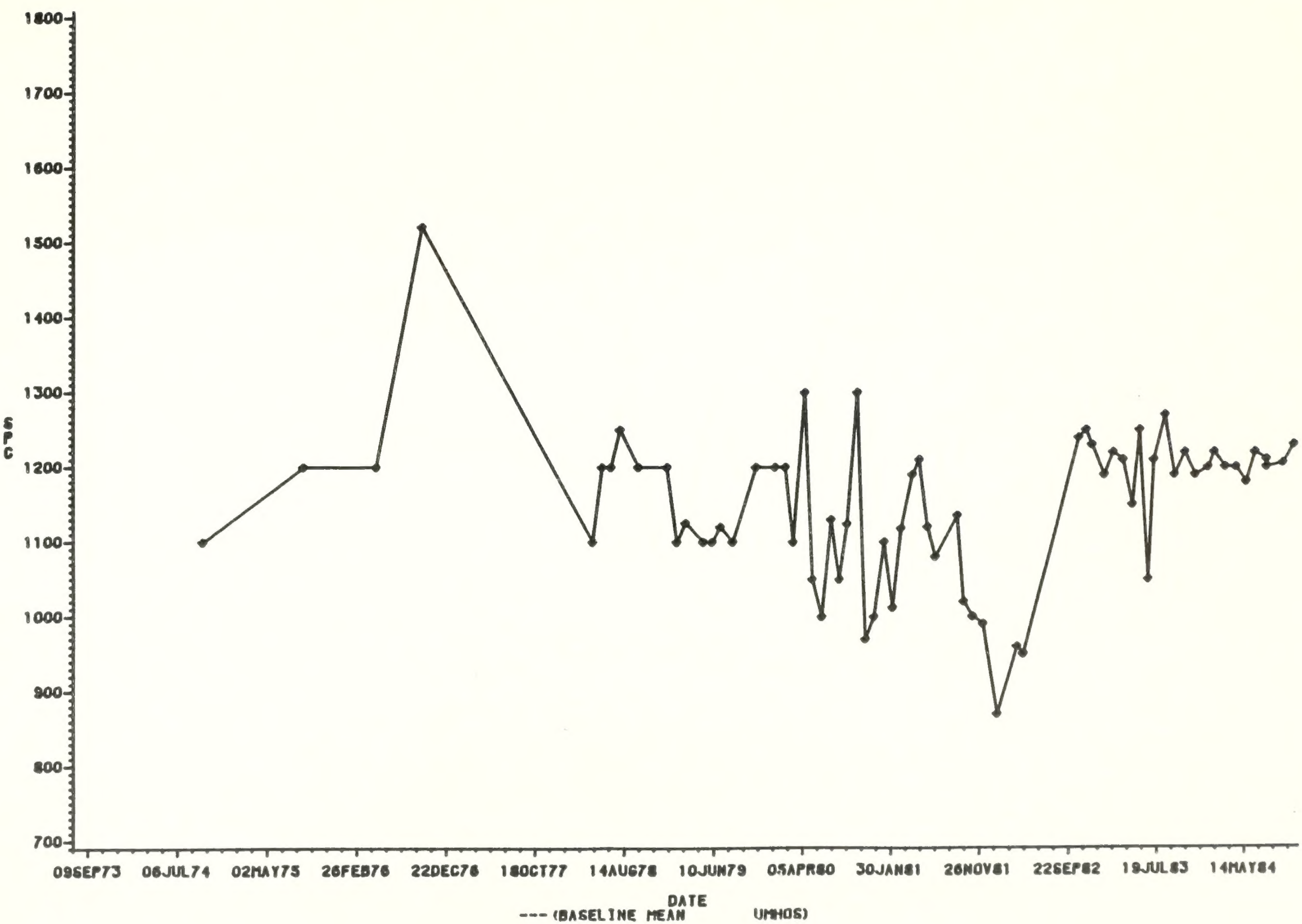
LOC=WS01



TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

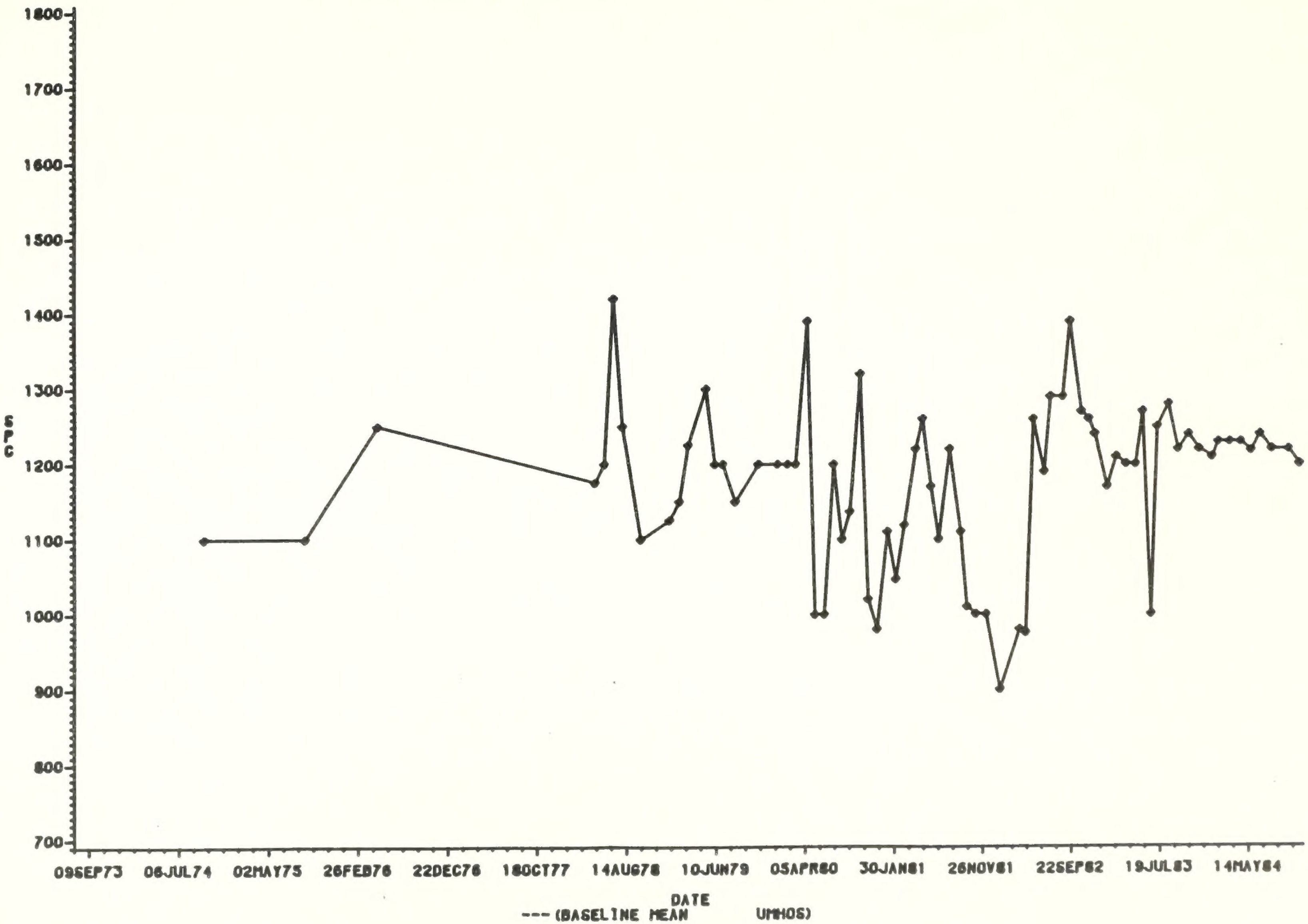
TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS02



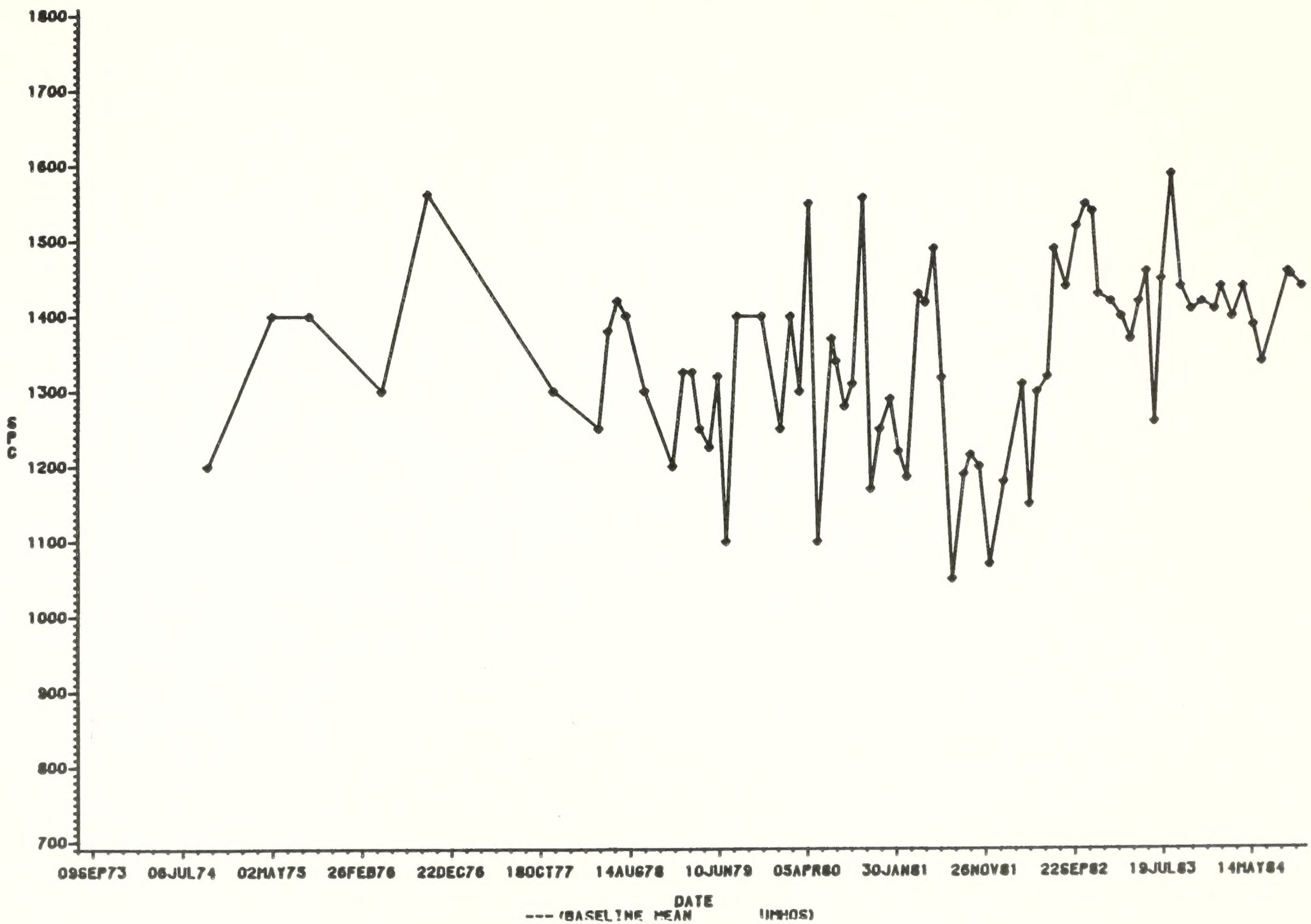
TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS04



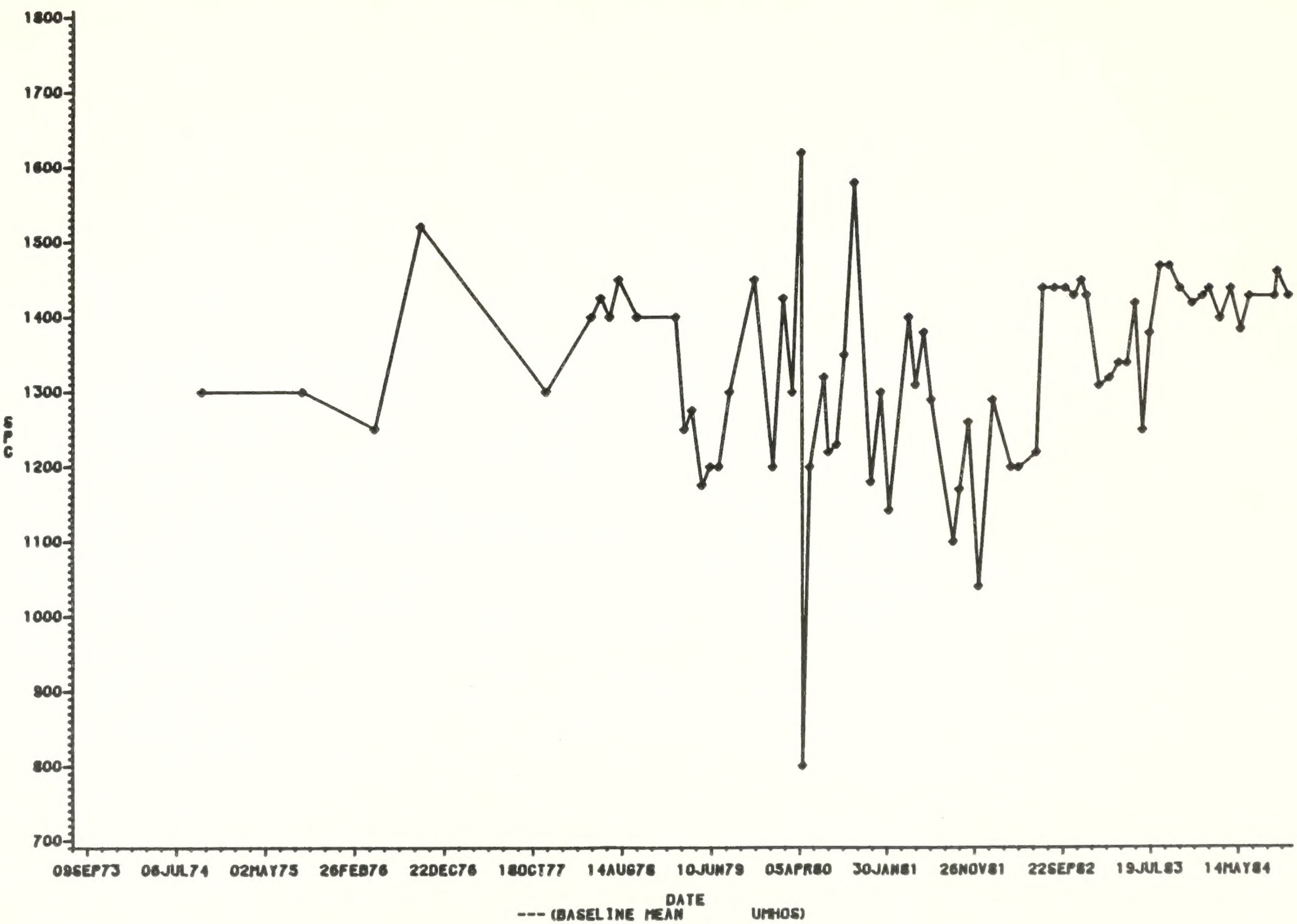
TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS06



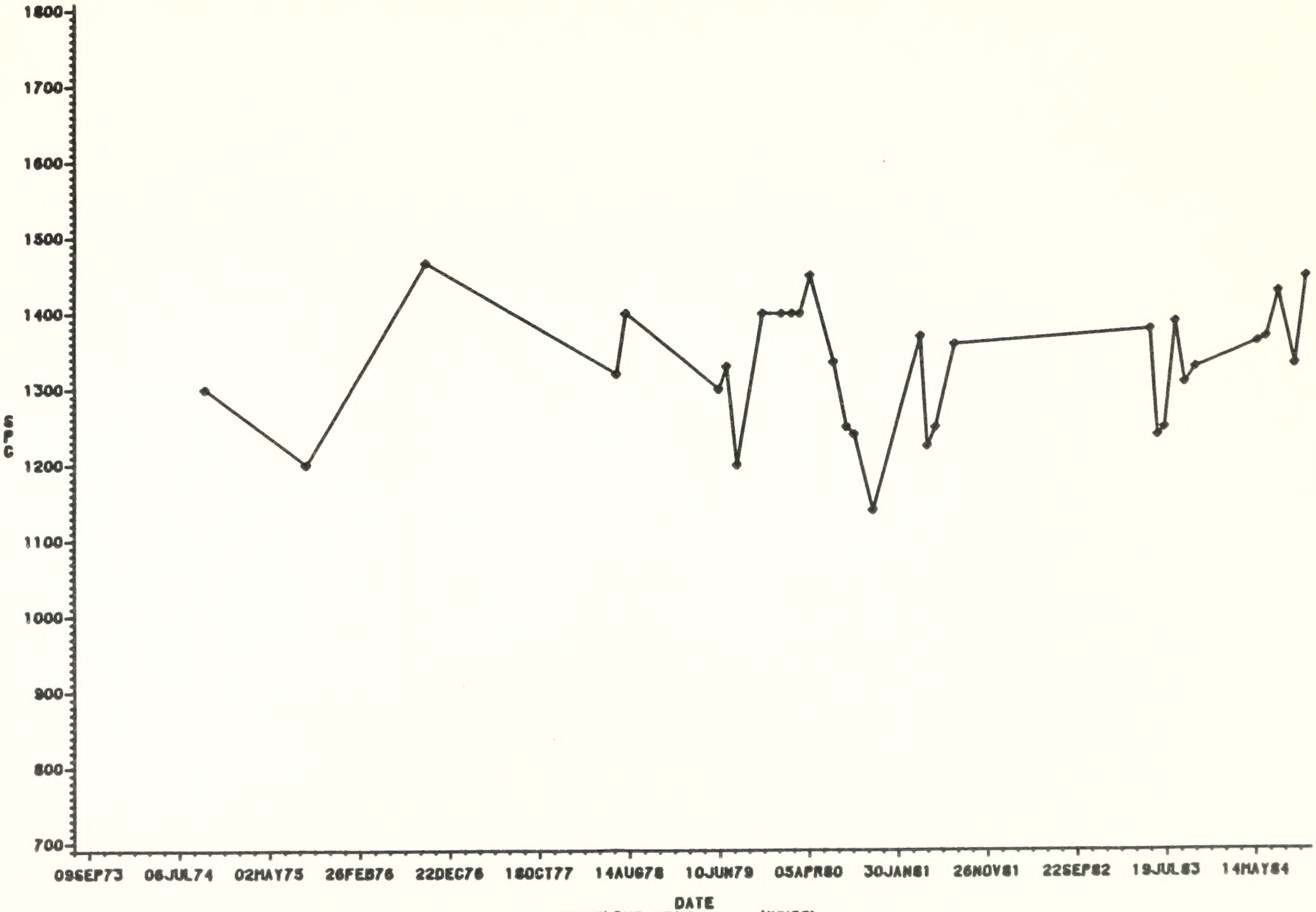
TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS07

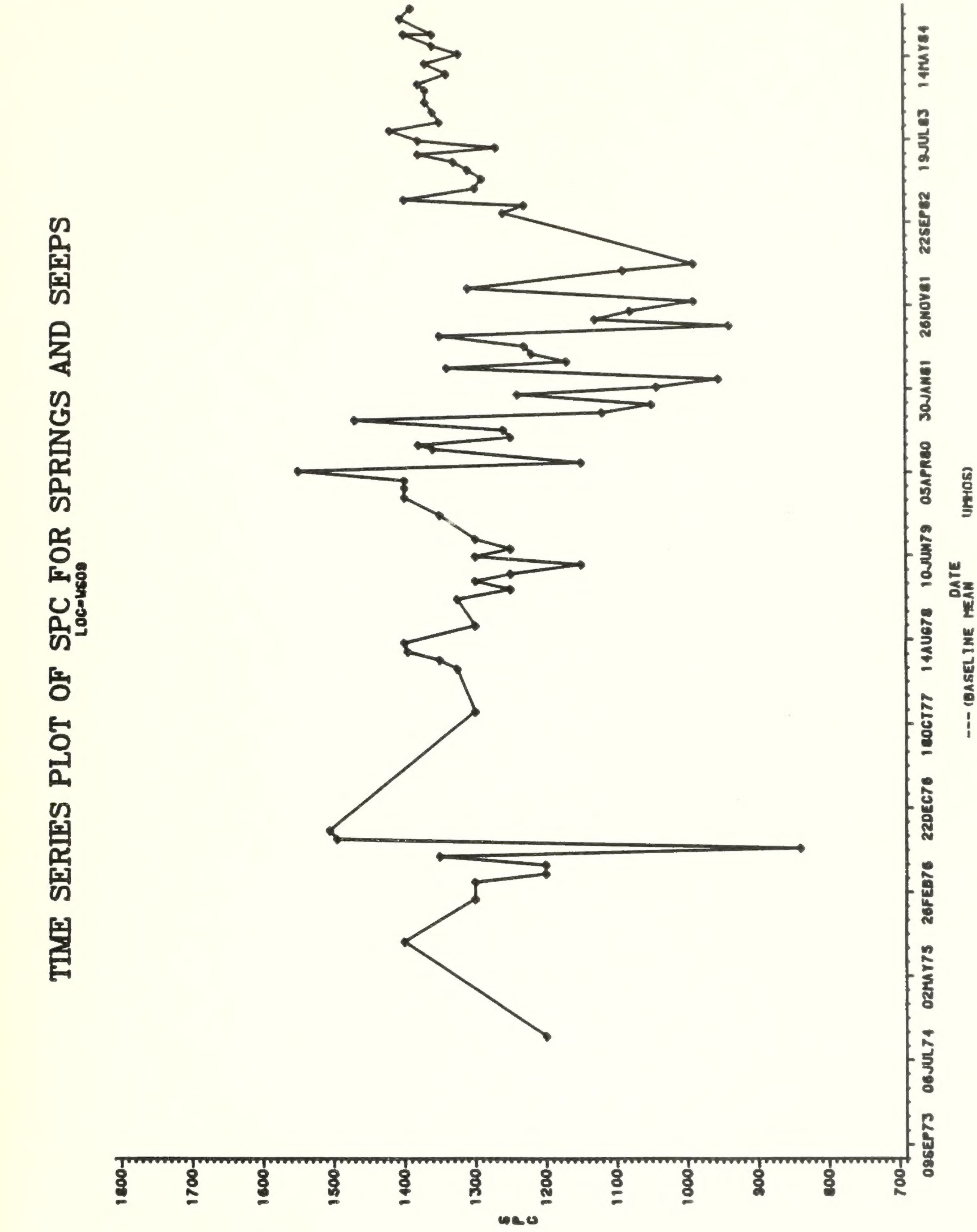


TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS08

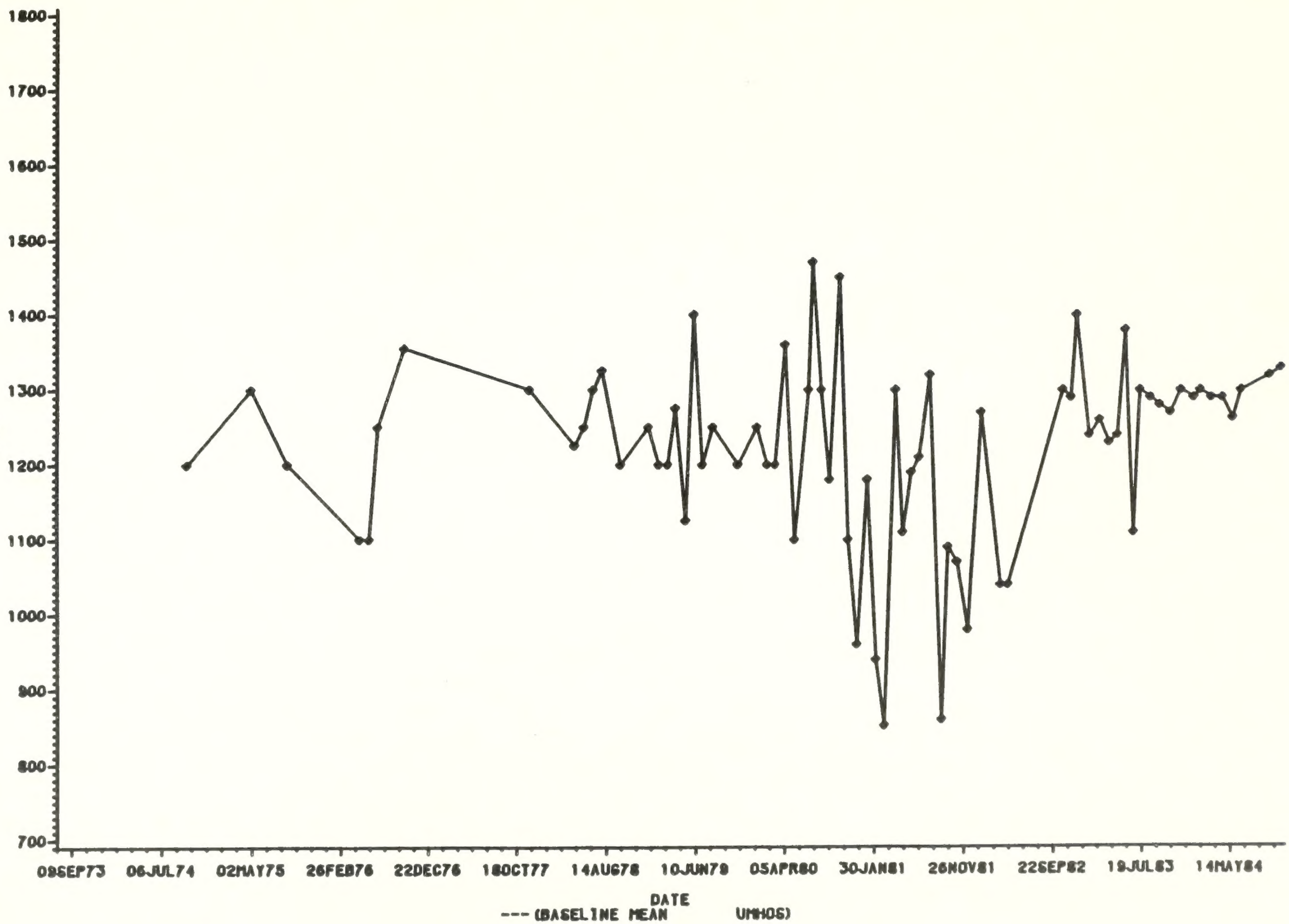


--- (BASELINE MEAN UMHOS)


TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS
LOC=WS09
SPC
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
09SEP73 06JUL74 02MAY75 26FEB76 22DEC76 18OCT77 14AUG78 10JUN79 05APR80 30JAN81 26NOV81 22SEP82 19JUL83 14MAY84
DATE
--- (BASELINE MEAN UMHOS)

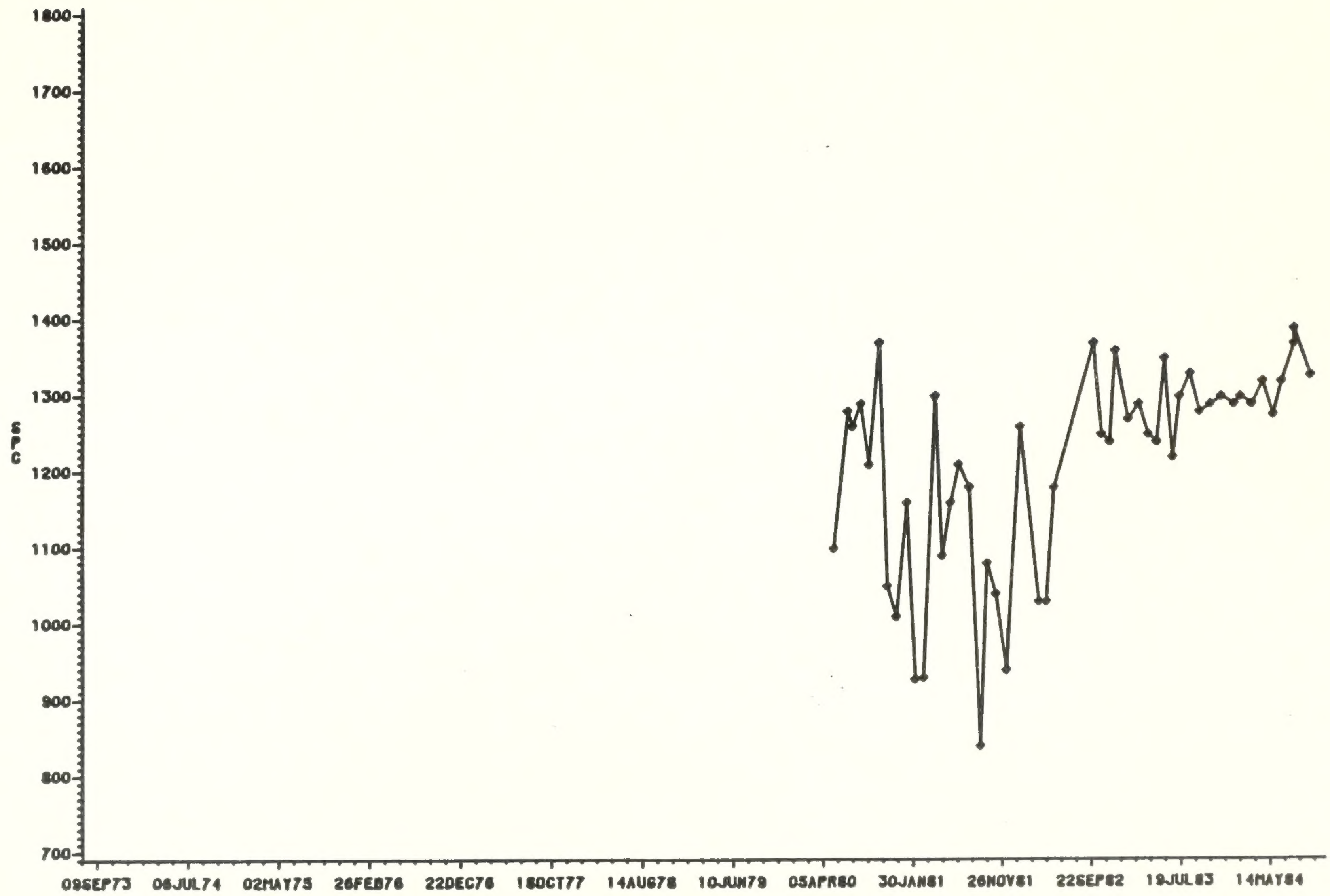
TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS10



TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

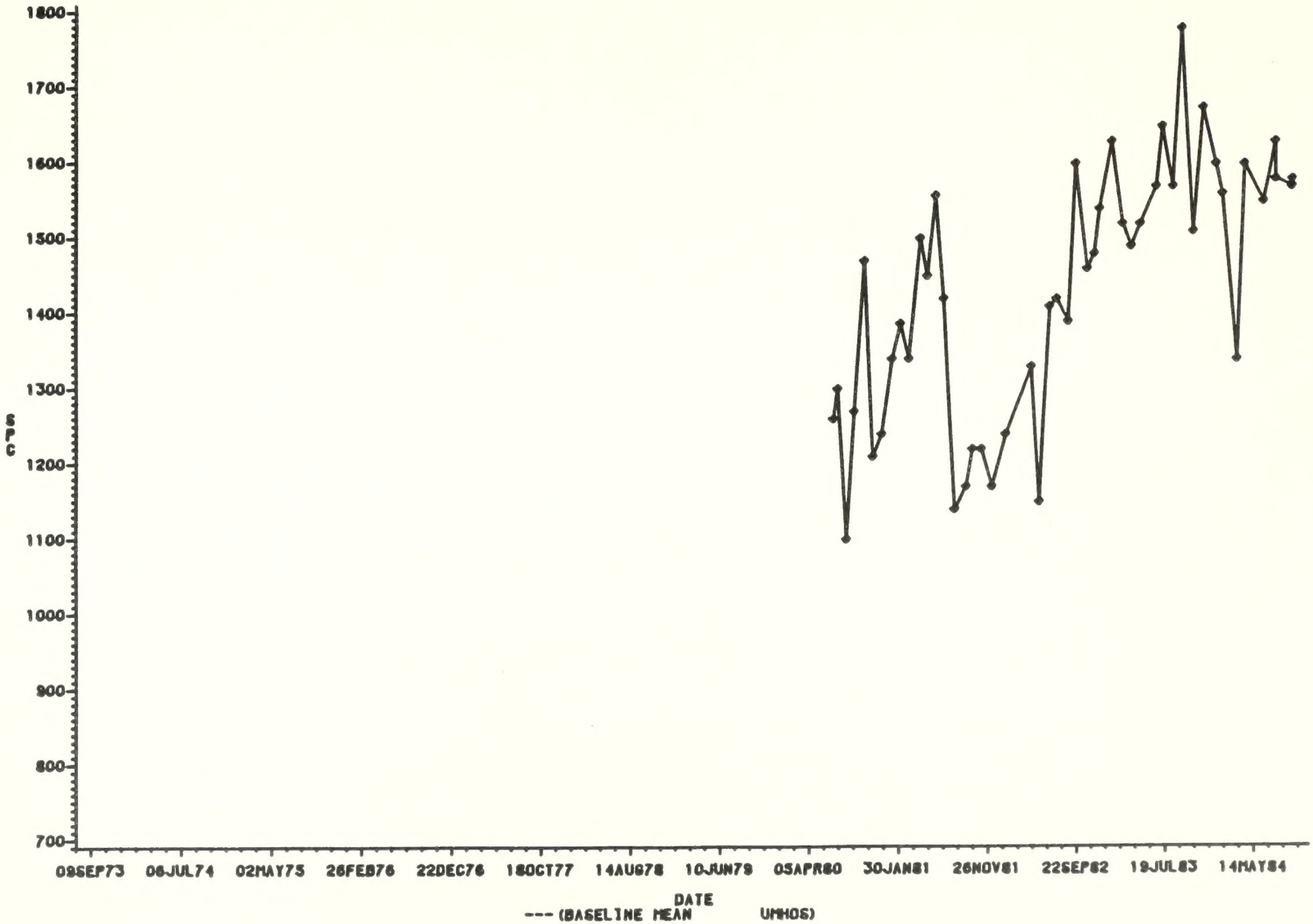
LOC=WS11



--- (BASELINE MEAN UMHOS)

TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

LOC=WS12



TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

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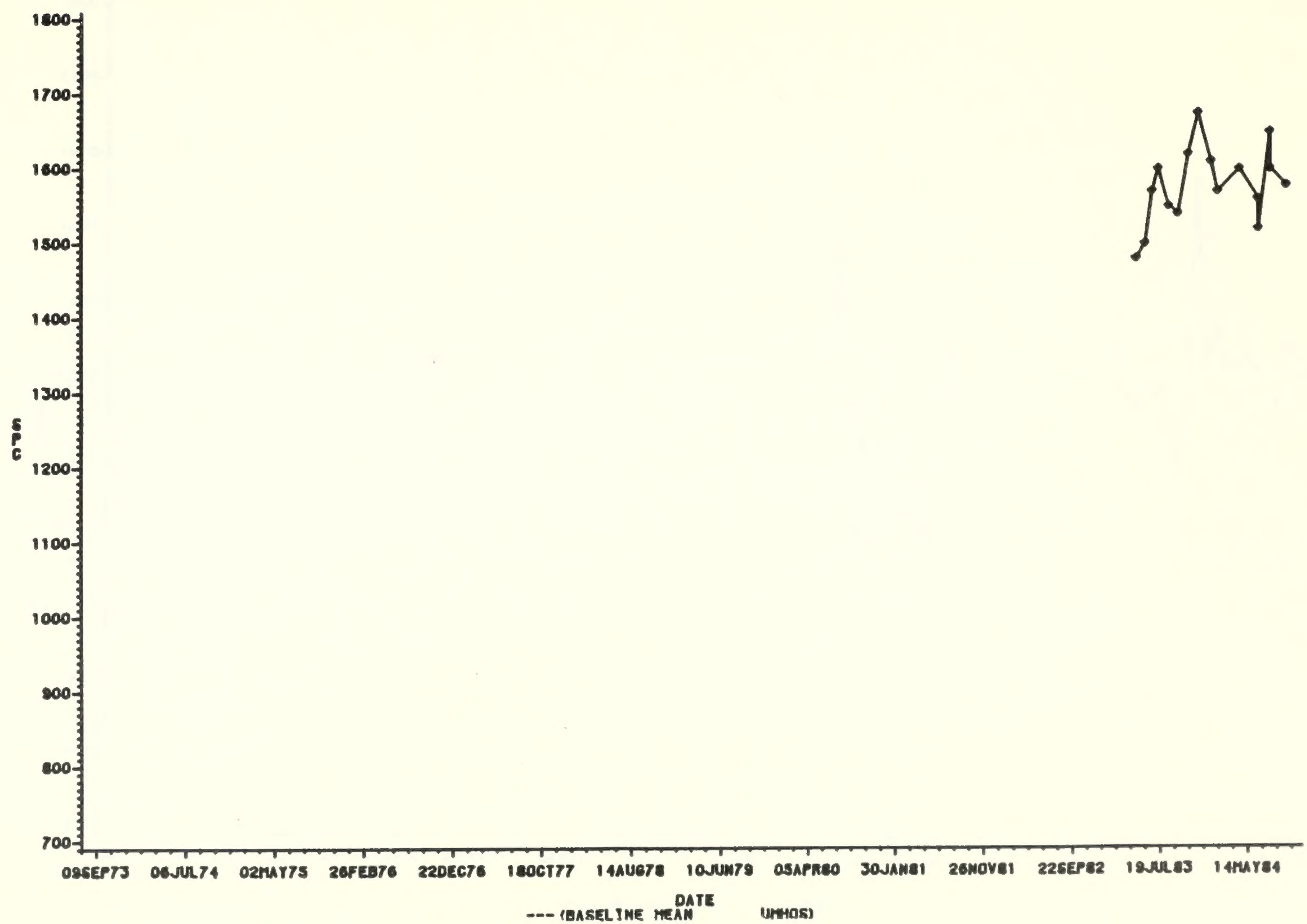

TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

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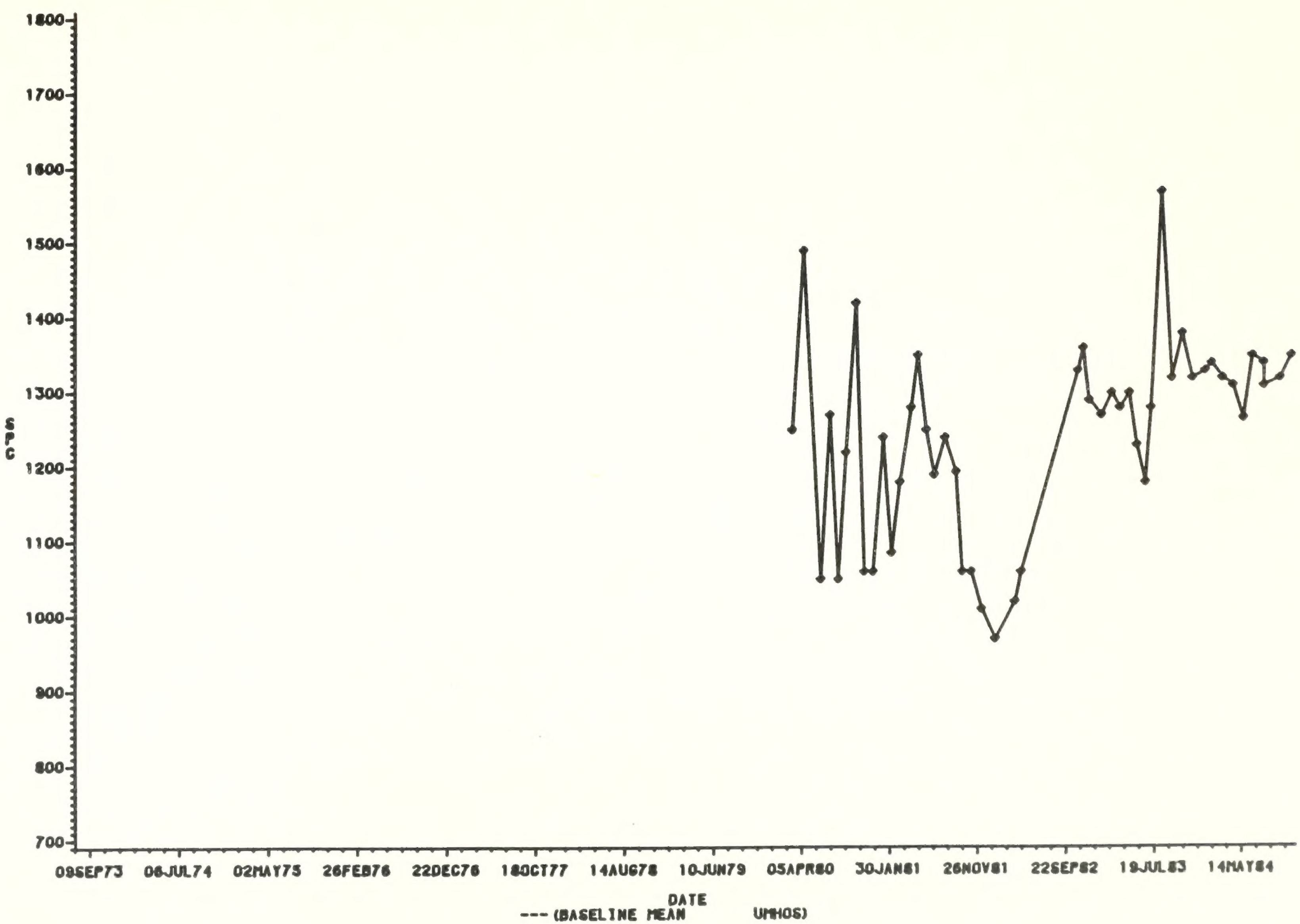

TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

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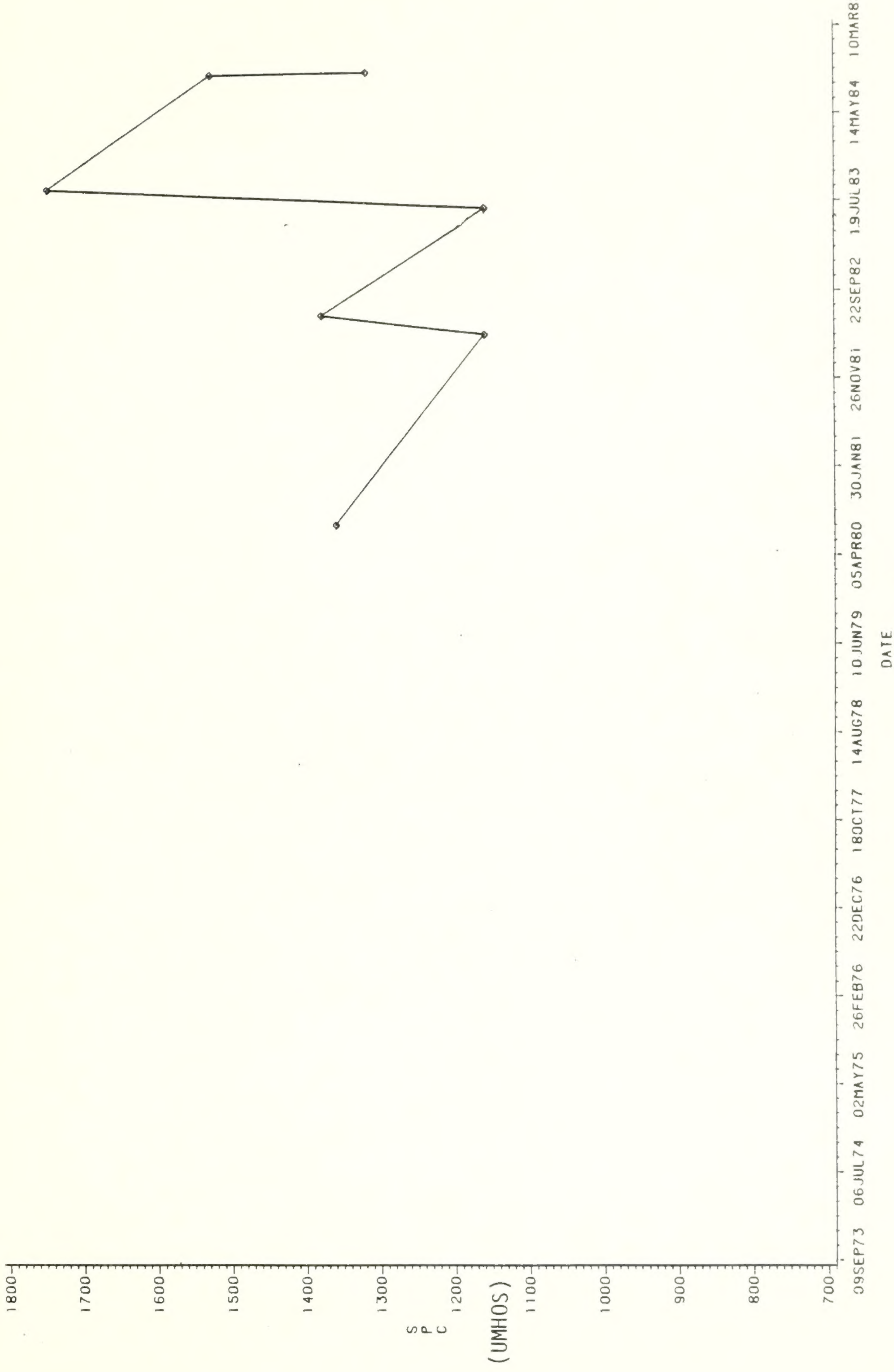


TIME SERIES PLOT OF SPC FOR SPRINGS AND SEEPS

ALLUVIAL WELLS

1.2.2.3 Alluvial Wells

Three new alluvial wells were drilled in early 1984 adjacent to S-102 (WA21*, WA22, WA24). A quarterly water quality sample was taken in June 1984 as shown in Table 1.2.2.3-2.

During this report period water samples of pH and conductivity remained between the 20% range for these baseline values. Field measurement data for this reporting period are shown in the flow section 1.2.1.3, Table 1.2.1.3-1. If a sample should have to be taken, parameters would be analyzed following the DMP quarterly schedule, Table 1.2.2.3-1.

TABLE 1.2.2.3-1

Parameters Analyzed During IMP - Alluvials

Ag	Mn	Zn	Oil and Grease
As	Pb	Na	Kjeldahl N
Ba	Mo	K	COD
Cd	Cl	Ca	Phenols
Cr	Li	Mg	TDS
Cu	Al	Fluoride	SO_4
Fe	Sr	B	CO_3
Hg	Se	Ni	HCO_3
Alkalinity	Hardness	Ammonia	No

Time series plots of temperature, pH and specific conductance are presented in this section of alluvial wells sampled since baseline; see Table 1.2.2.3-3.

* WB21 is a second alluvial string in the same well.

TABLE 1.2.2.3-2

CR-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
ALLUVIAL WELLS

WELL	YR	MO	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHEN (MG/L)	K (MG/L)	B (MG/L)	TOTAL DISS SOLIDS (MG/L)	SR (MG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WA21	84	6	.060	-1.00	-10.0	-.0100	1.4	.30	890.0	2.2	67.0	16.0	-50.0	-.020	-.020
WA22	84	6	.040	-1.00	-10.0	-.0100	1.3	.20	820.0	2.5	35.0	14.0	-50.0	-.020	-.020
WA24	84	6	.050	-1.00	-10.0	-.0100	1.2	.30	830.0	2.9	60.0	13.0	-50.0	-.020	-.020

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.3-2 (Cont'd)

CH-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
ALLUVIAL WELLS

WELL	YR	MO	SIO2 (MG/L)	CN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WA21	84	6	20.0		.10	-.10	-.00020	-.010		.018	-.020	-.05	.057	-.02	3.40
WA22	84	6	17.0		.10	-.10	-.00020	-.010		.009	-.020	-.05	.097	.05	.70
WA24	84	6	19.0		.20	-.10	-.00020	-.010		.018	-.020	-.05	.010	.03	.86

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.3-2 (Cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
ALLUVIAL WELLS

WELL	YR	MO	TOTAL ALK (MG/L CACO3)	AL MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WA21	84	6	700.0	-.100	-.040	-.020	-.50	650.0	1.0	.430	400.0	250.0	57.0	63.0
WA22	84	6	530.0	-.100	-.040	-.020	-.50	490.0	1.0	.570	500.0	180.0	72.0	78.0
WA24	84	6	630.0	-.100	-.040	-.020	-.50	590.0	1.0	.490	410.0	220.0	60.0	64.0

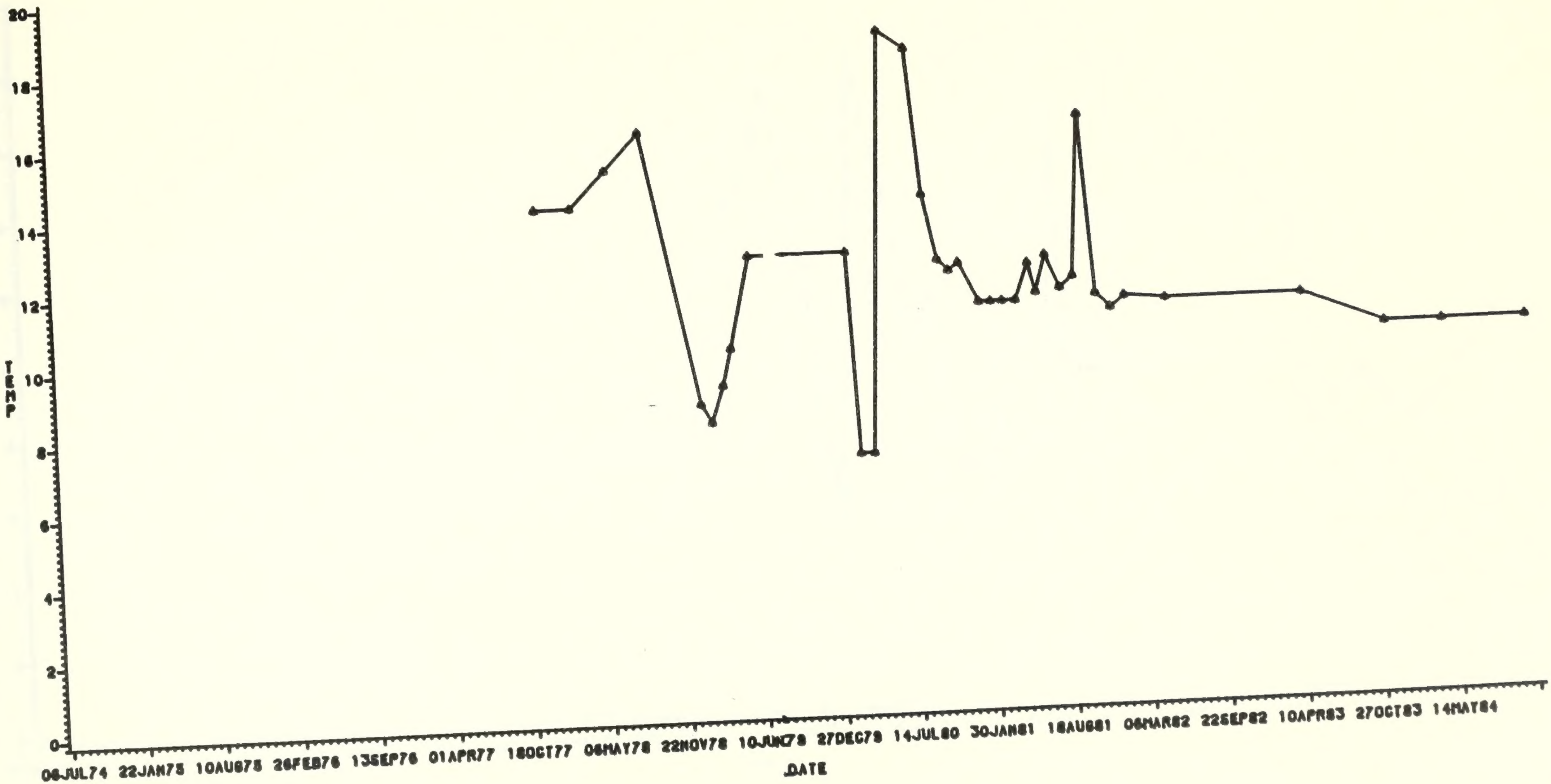
NOTE: - INDICATES LESS THAN

TABLE 1.2.2.3-3

Station	Code	Temperature	pH	Specific Conductance
A-1	WA01	I-356	I-369	I-382
A-2	WA02	I-357	I-370	I-383
A-3	WA03	I-358	I-371	I-384
A-5	WA05	I-359	I-372	I-385
A-6	WA06	I-360	I-373	I-386
A-7	WA07	I-361	I-374	I-387
A-8	WA08	I-362	I-375	I-388
A-9	WA09	I-363	I-376	I-389
A-10	WA10	I-364	I-377	I-390
A-11	WA11	I-365	I-378	I-391
A-12	WA12	I-366	I-379	I-392
A-5A	WA55	I-367	I-380	I-393
A-5B	WA56	I-368	I-381	I-394

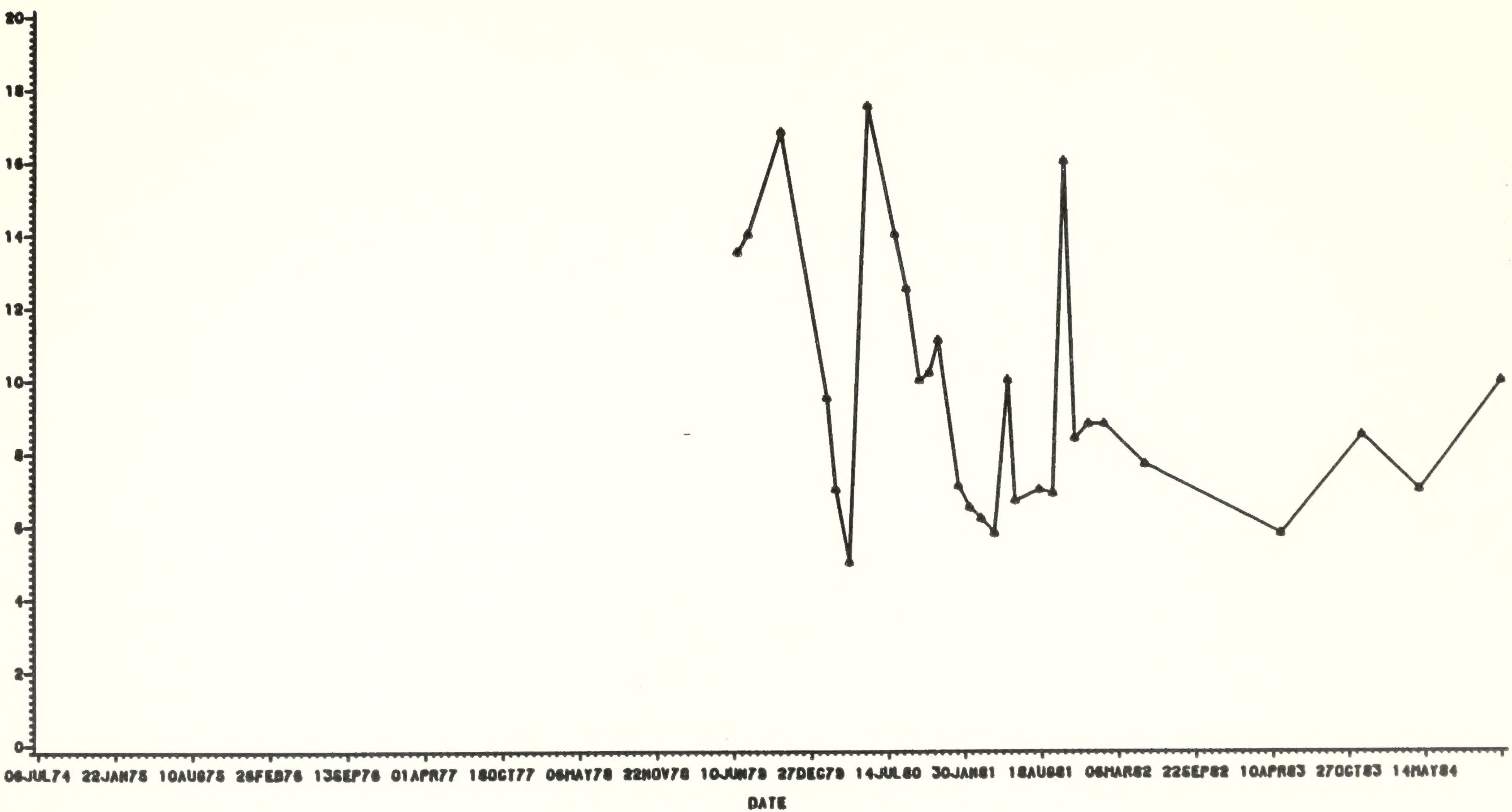
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOG-WA01



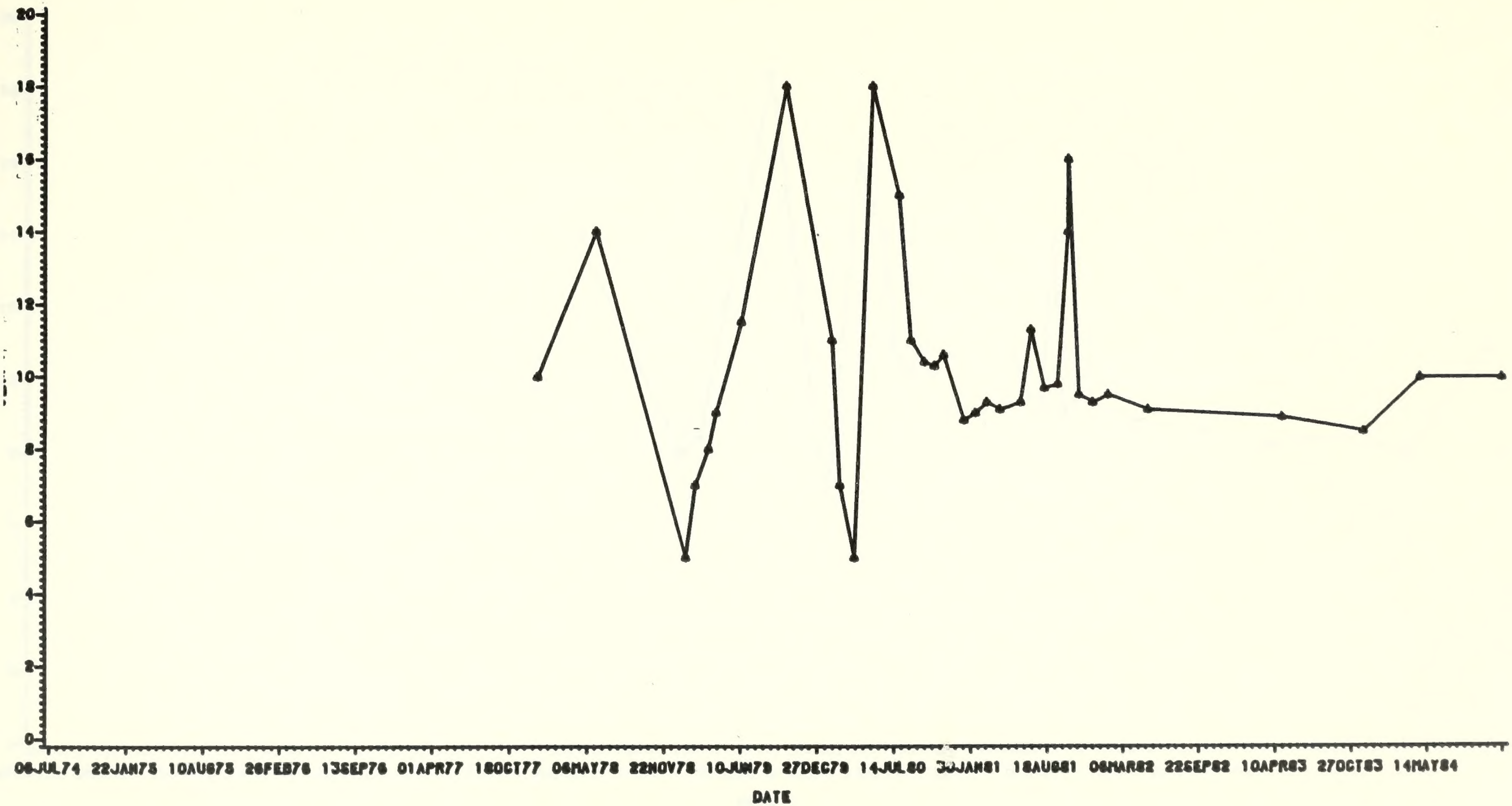
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA02

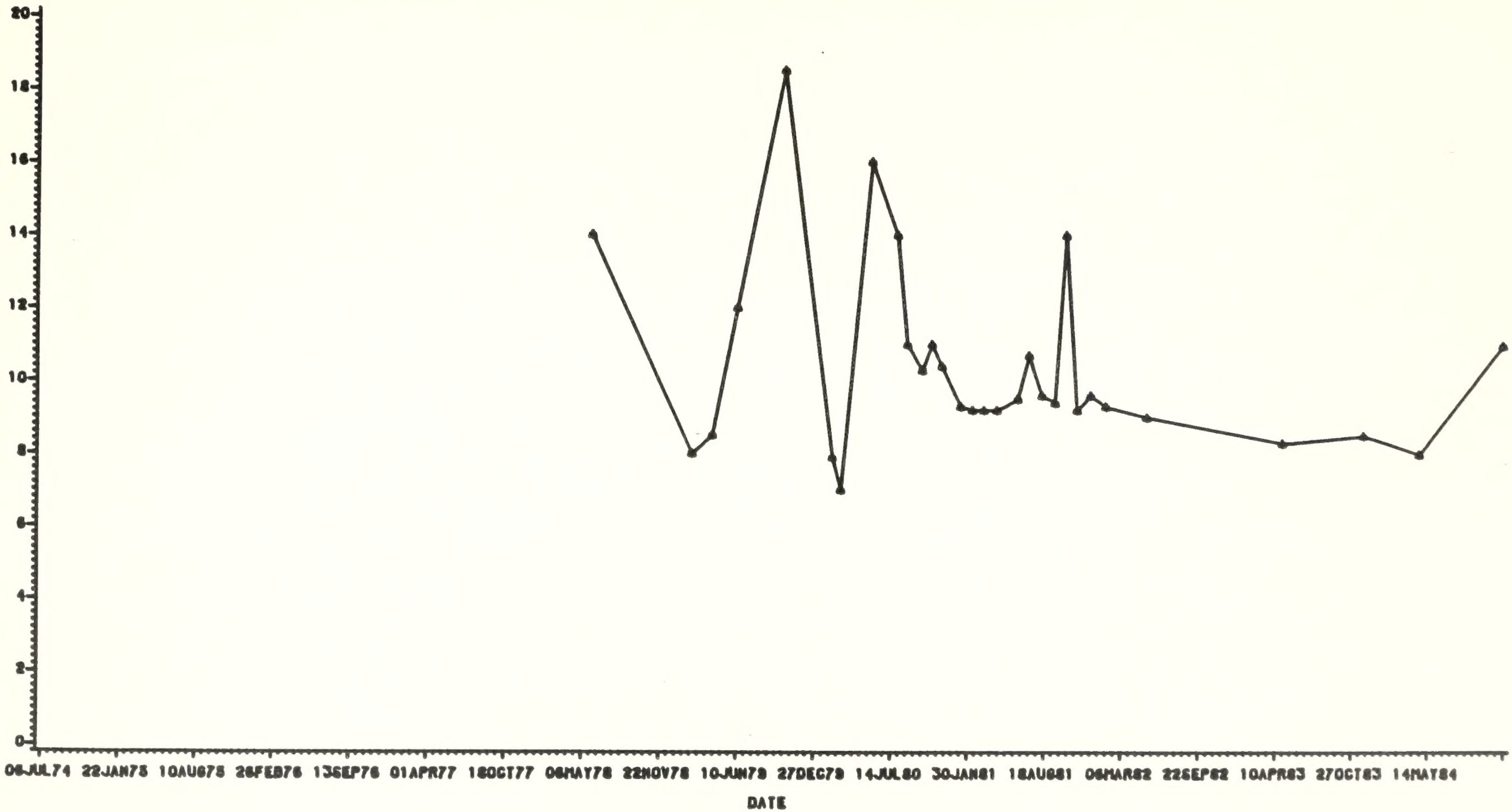


FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA03

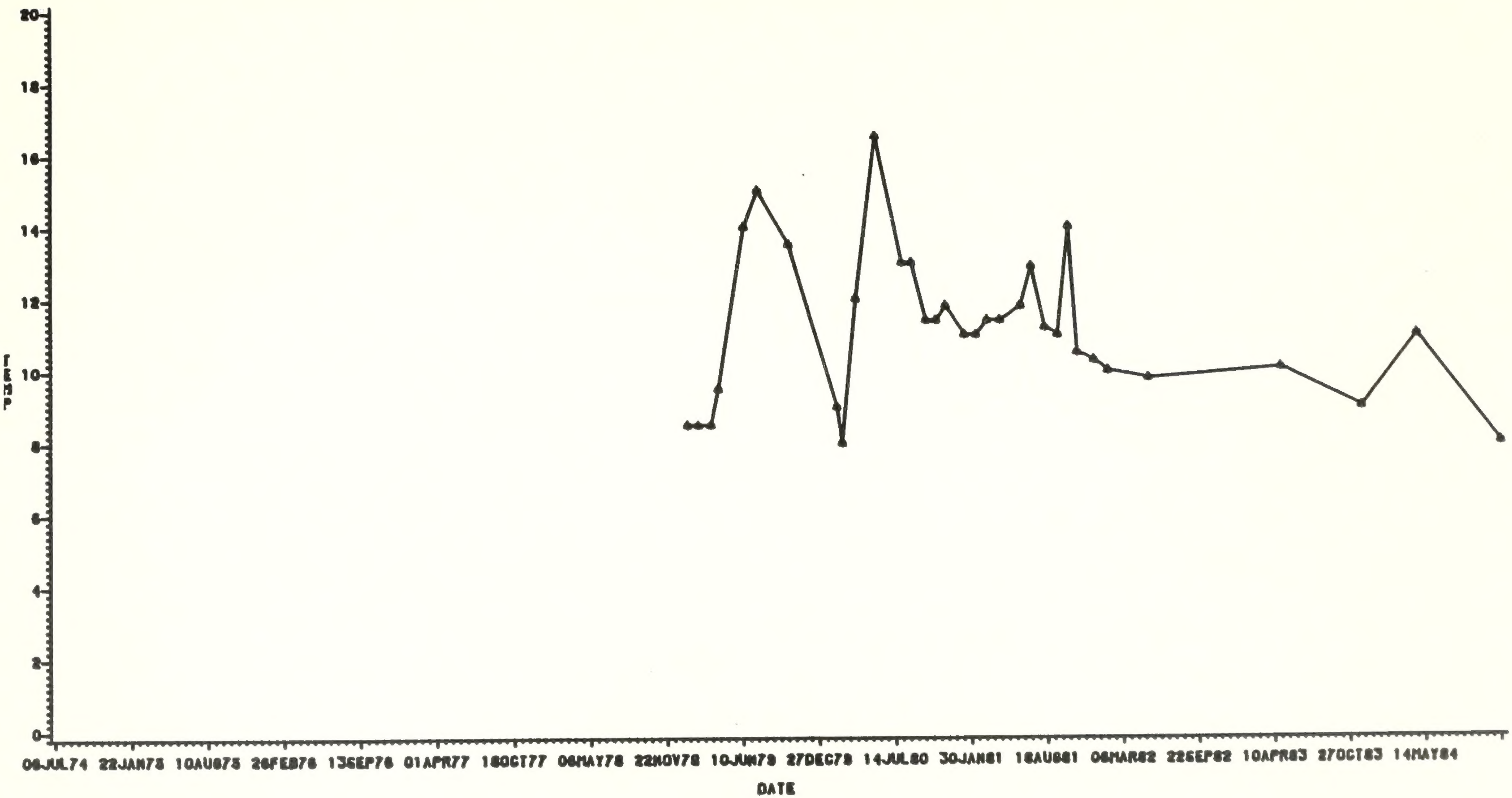


FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA08



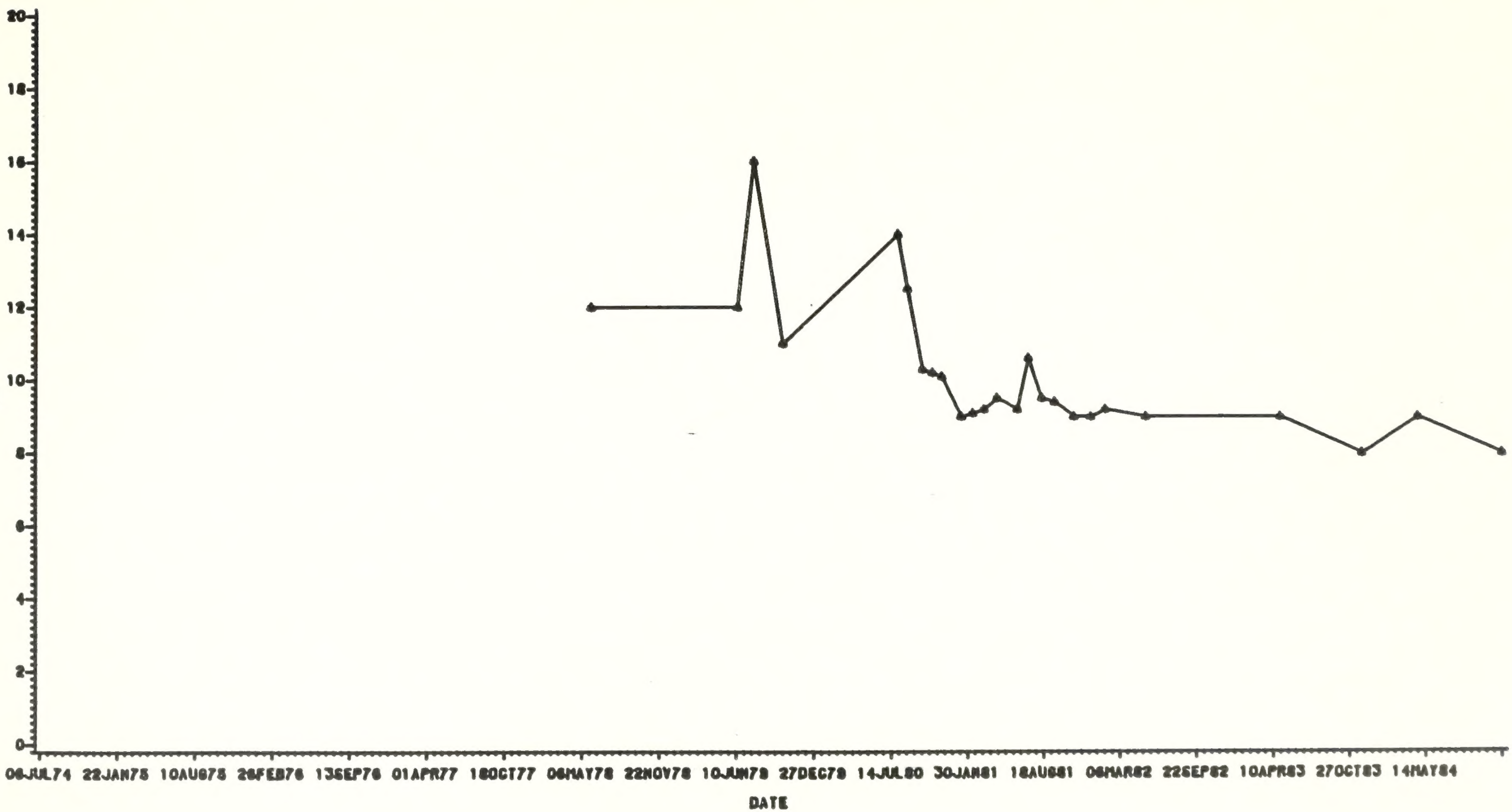
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA06



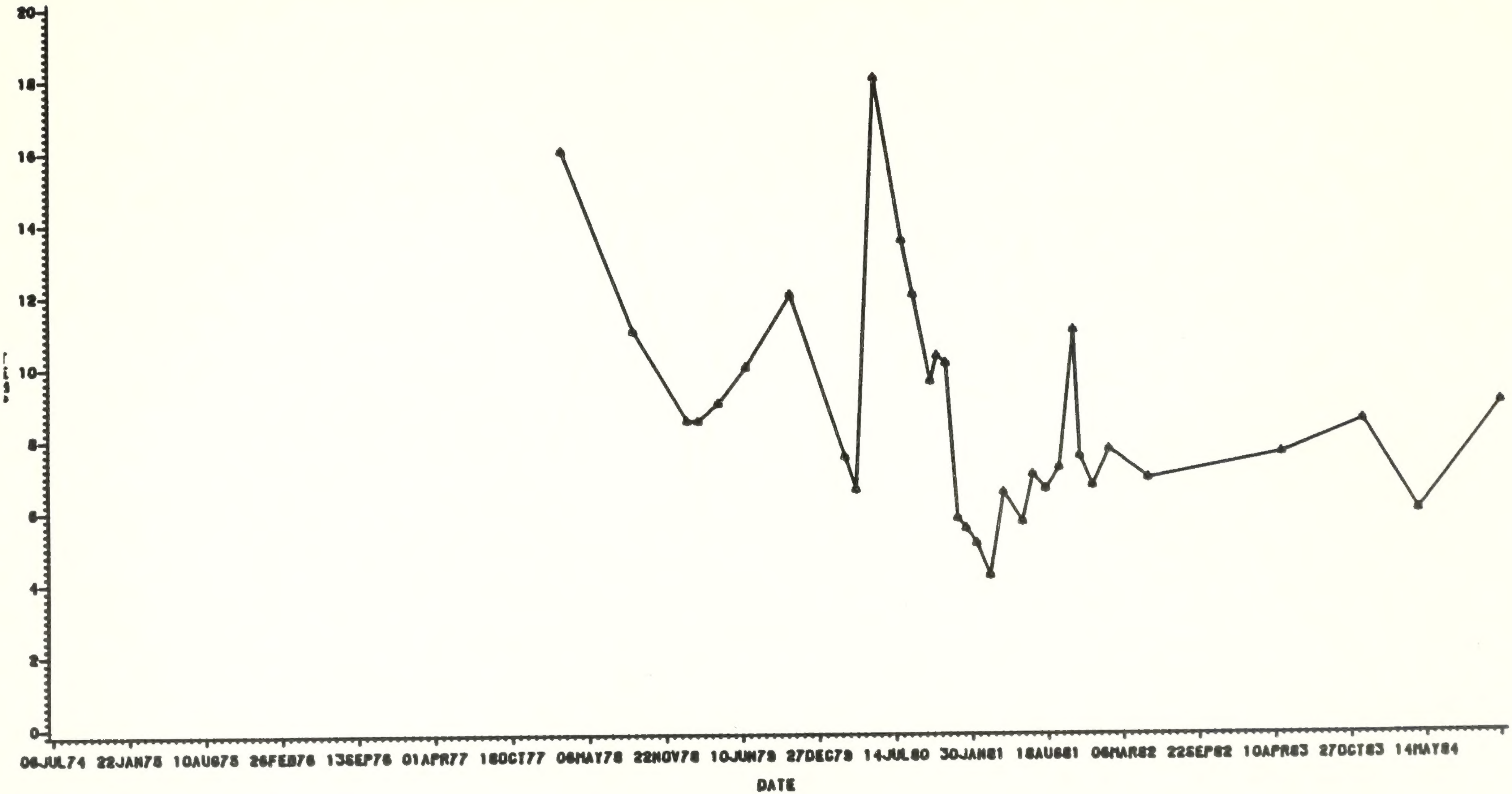
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA07



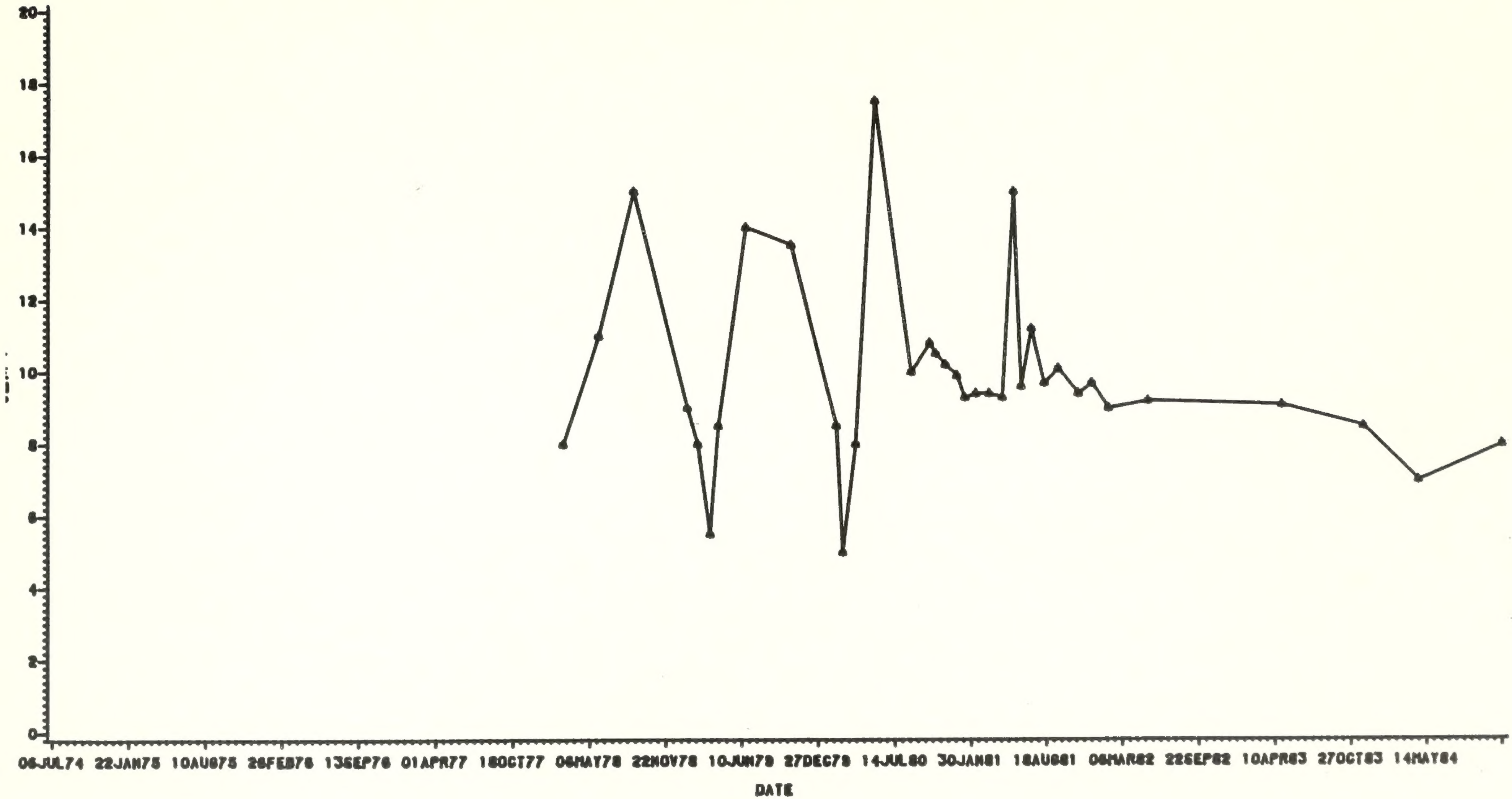
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA08



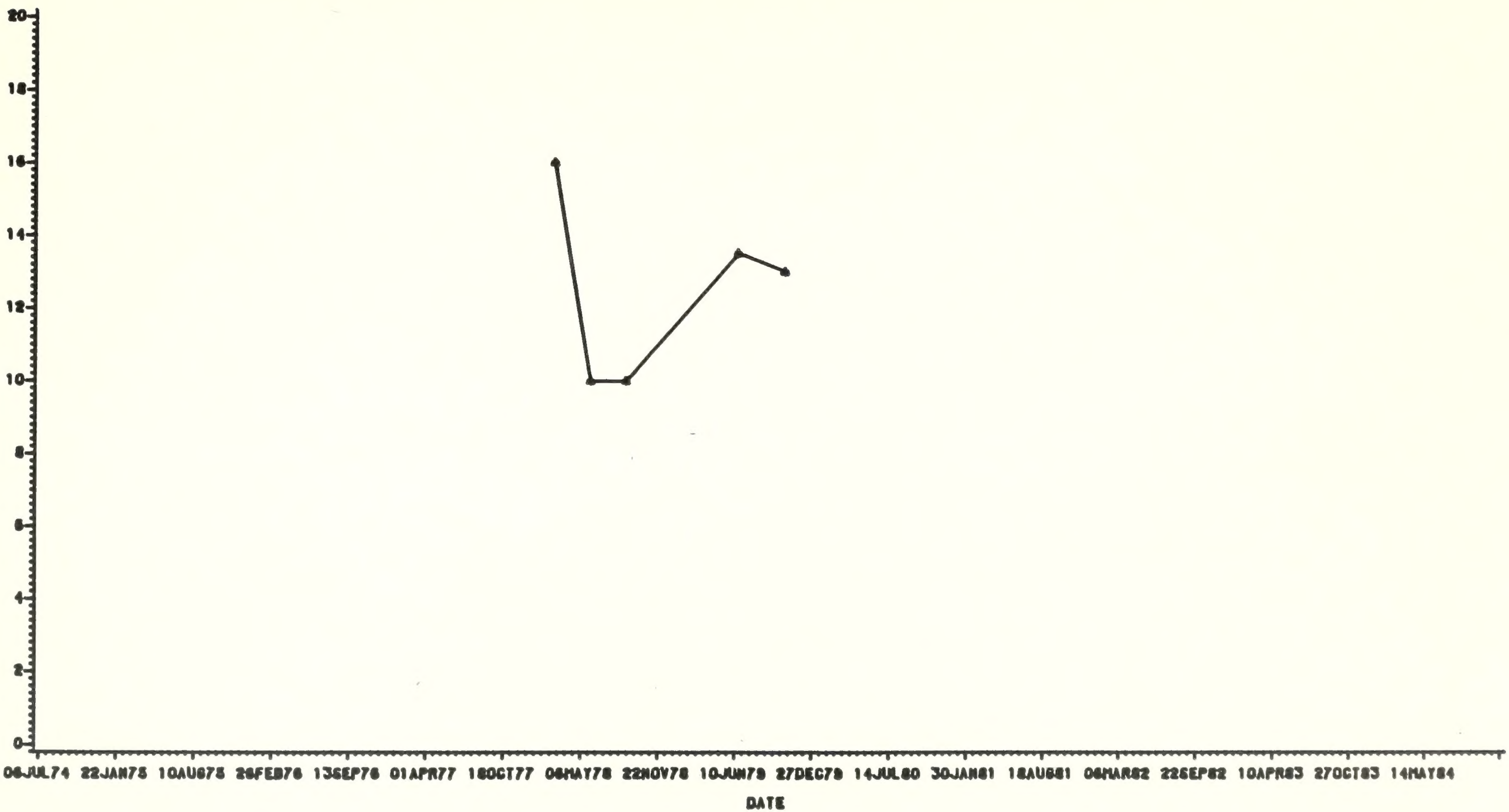
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA09



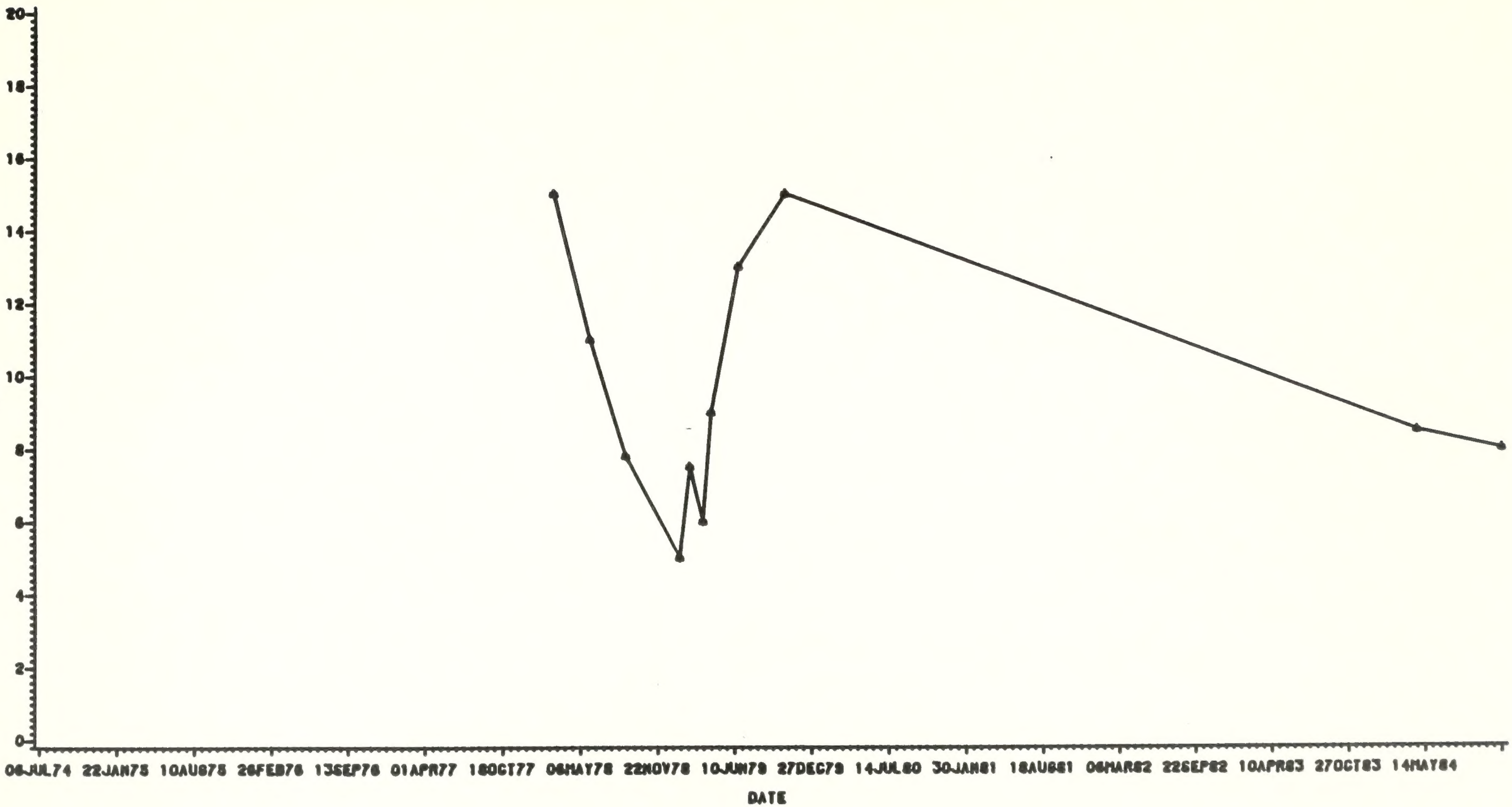
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA10

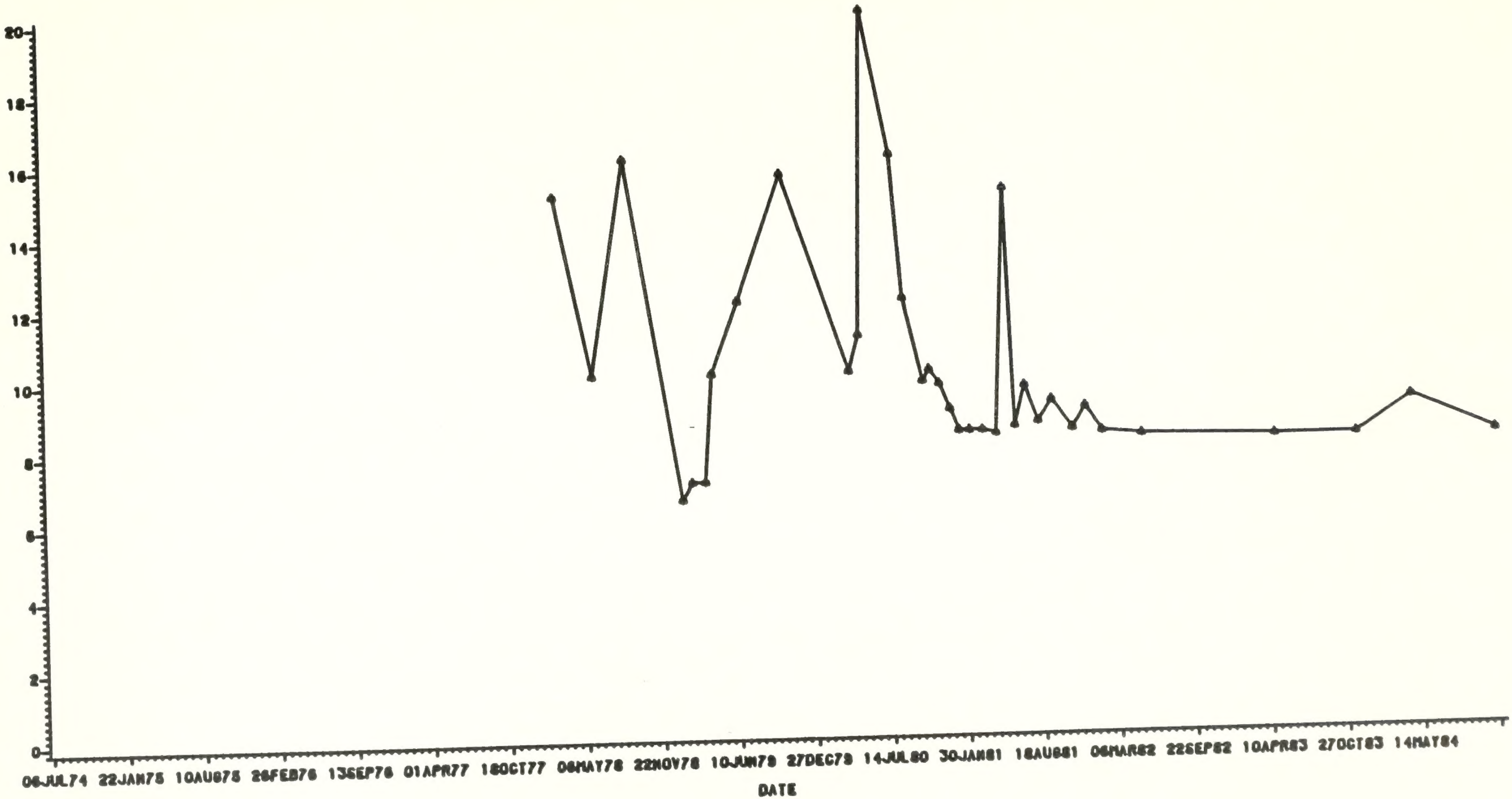


FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA11

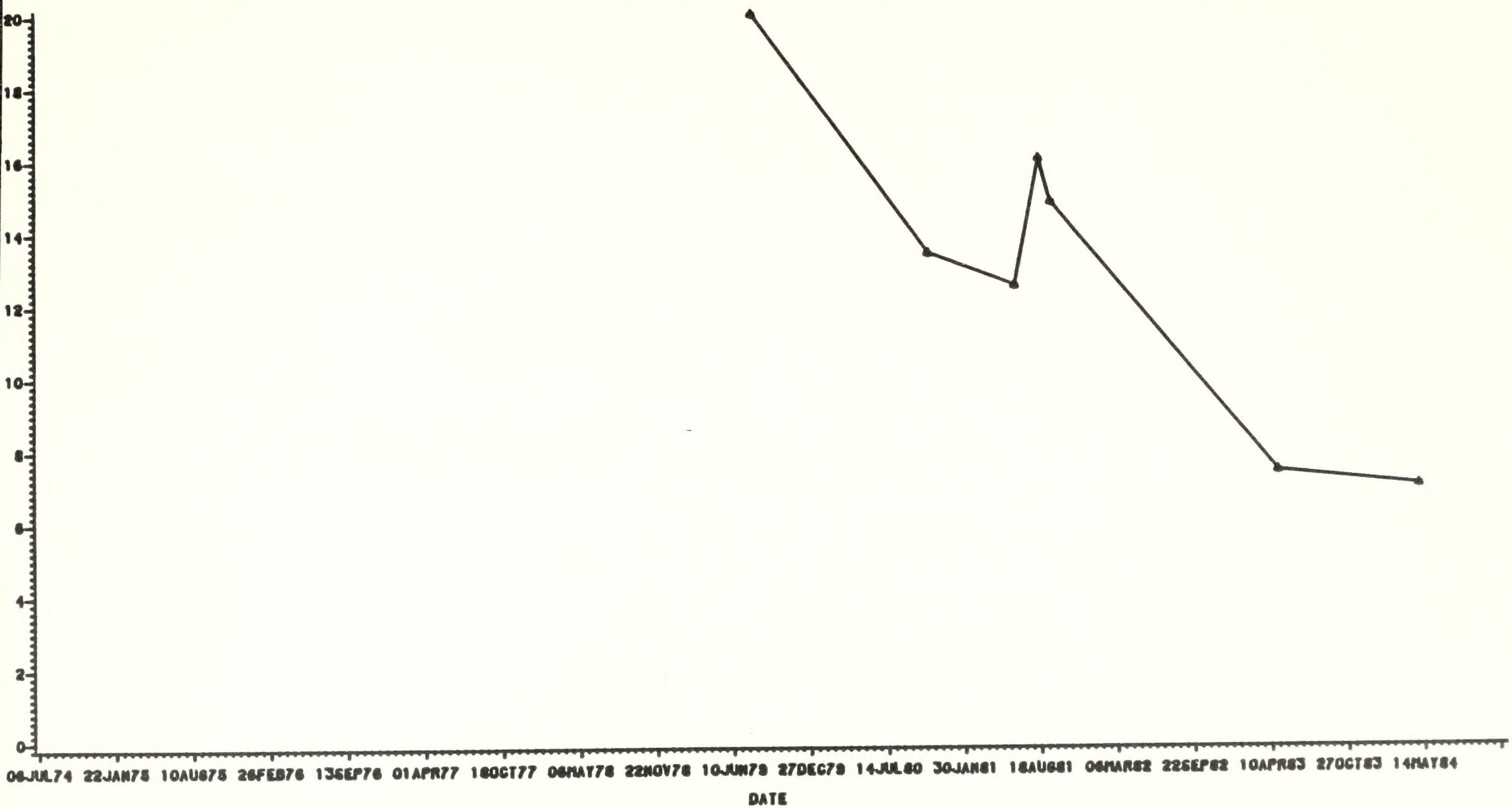


FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA12



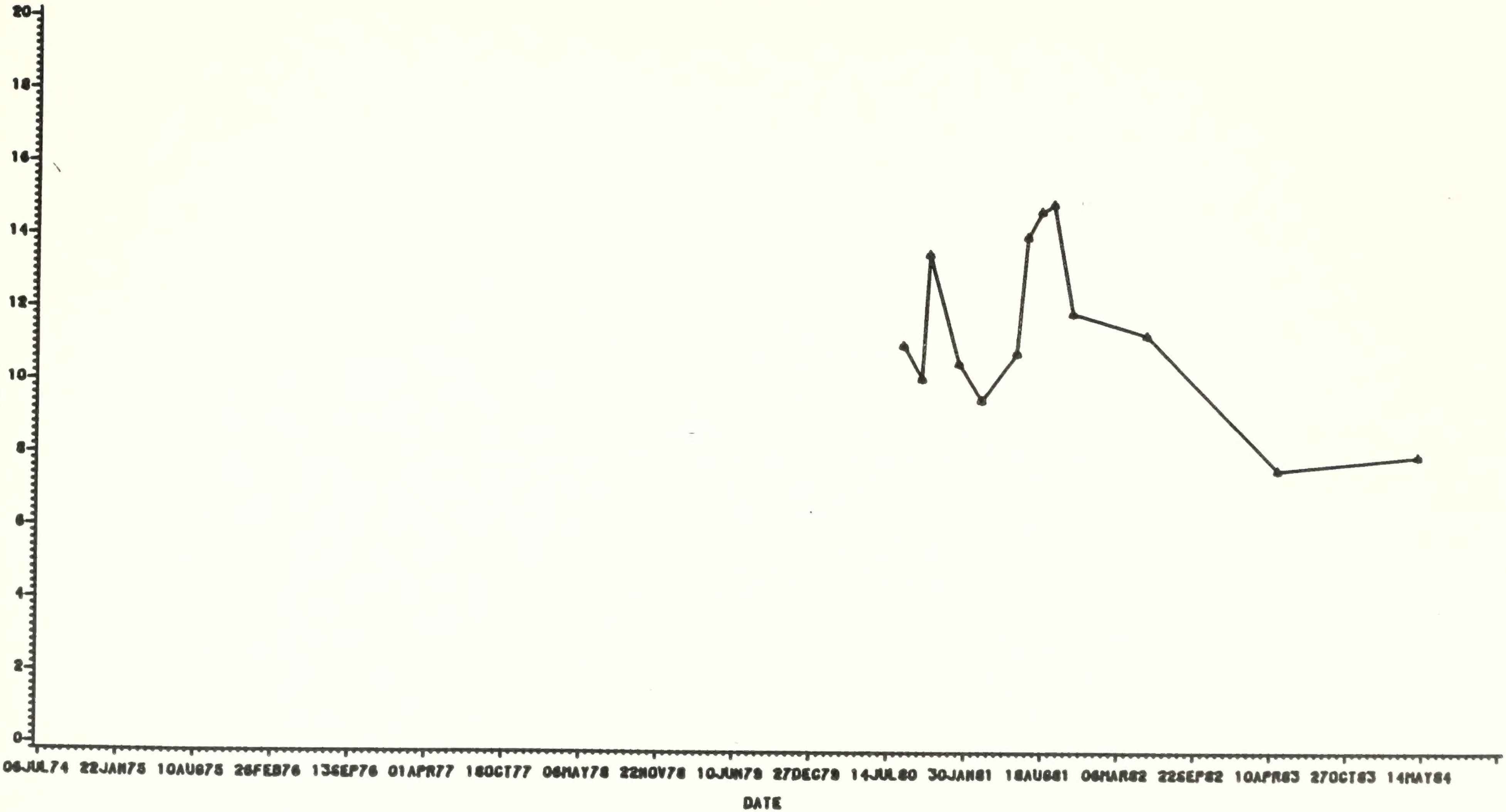
FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WASS

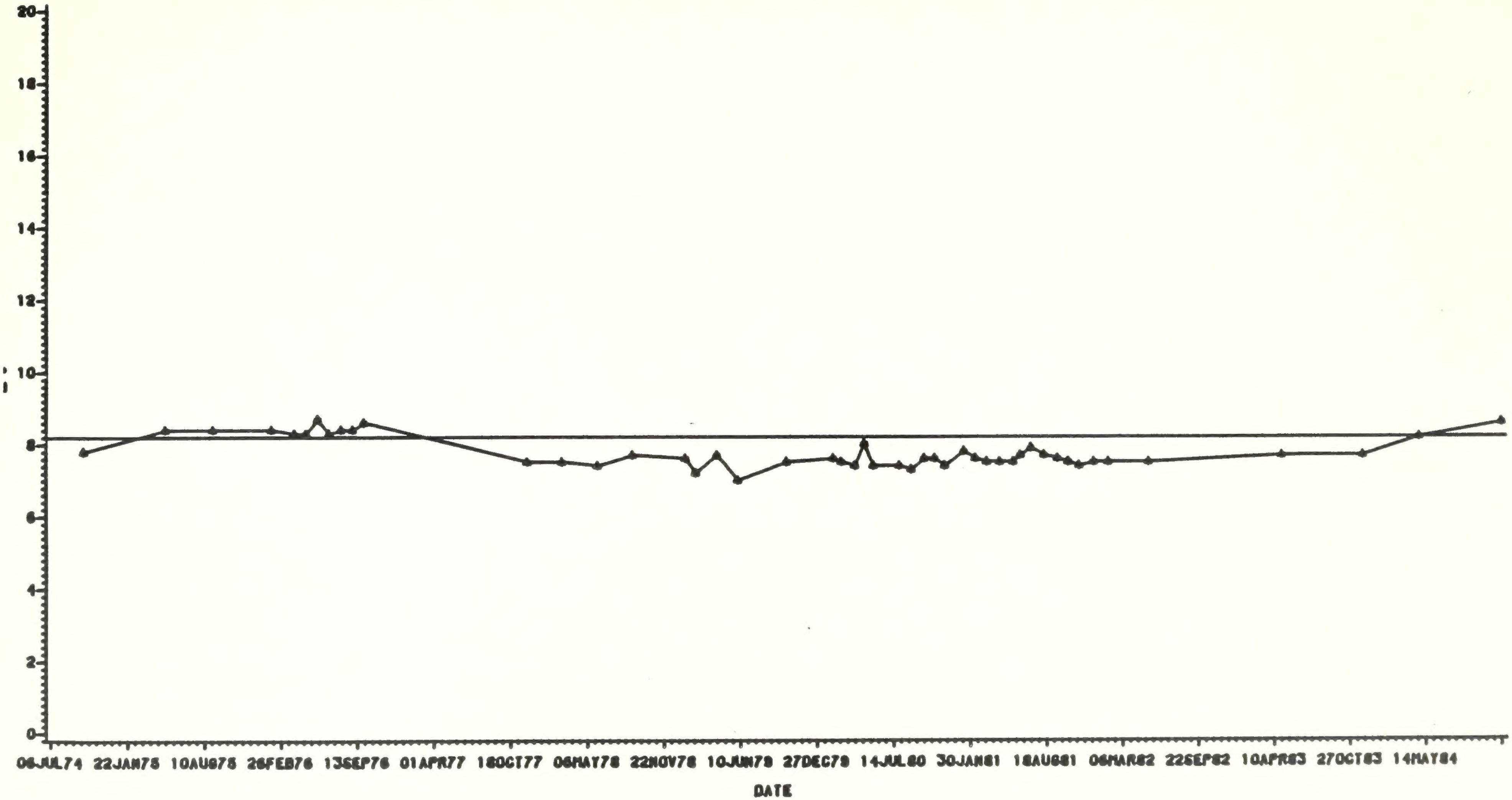


FIELD TEMPERATURE (DEG C) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WAS6



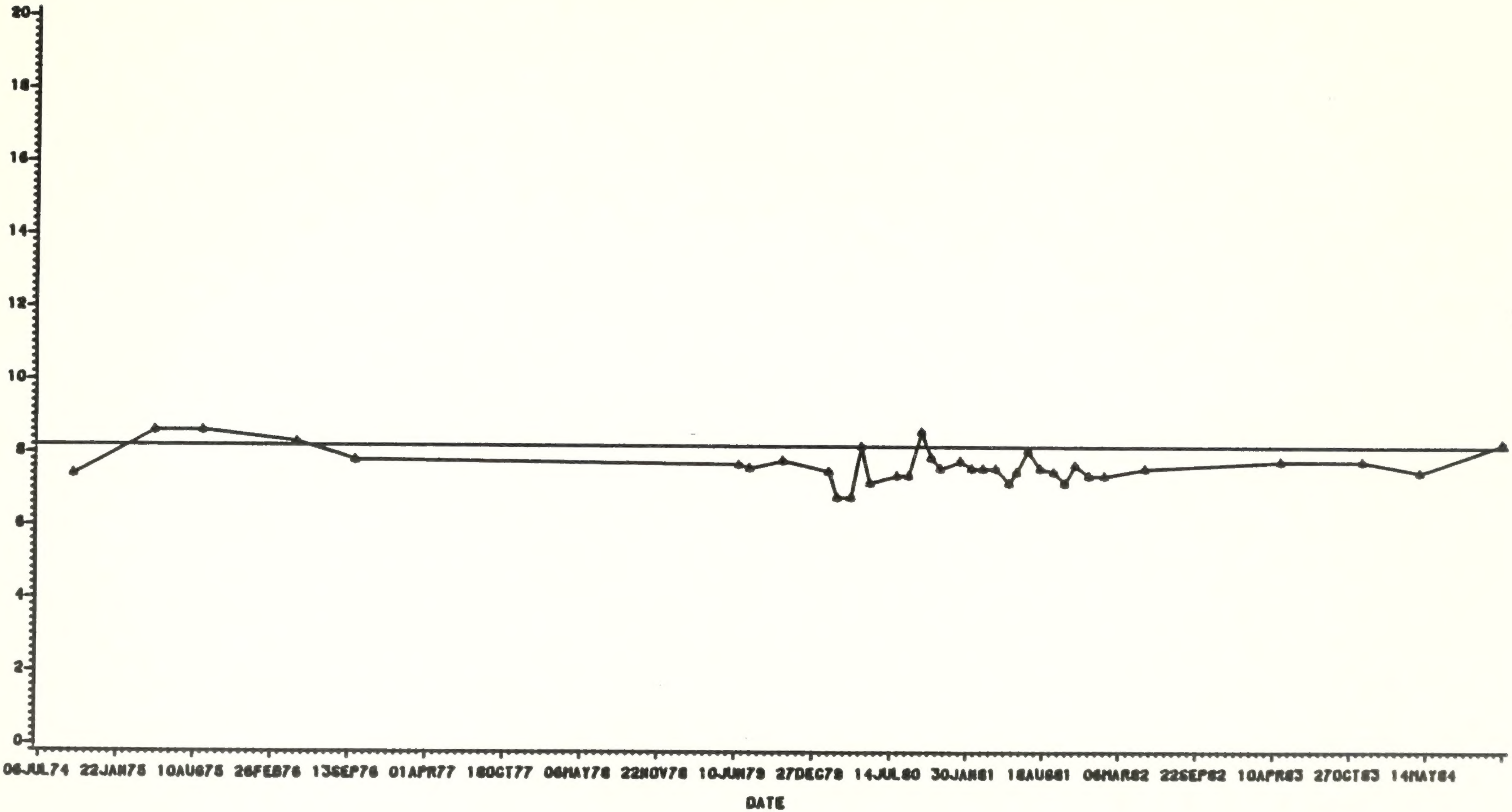
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA01



--- (BASELINE MEAN 8.2 UNITS)

FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA02



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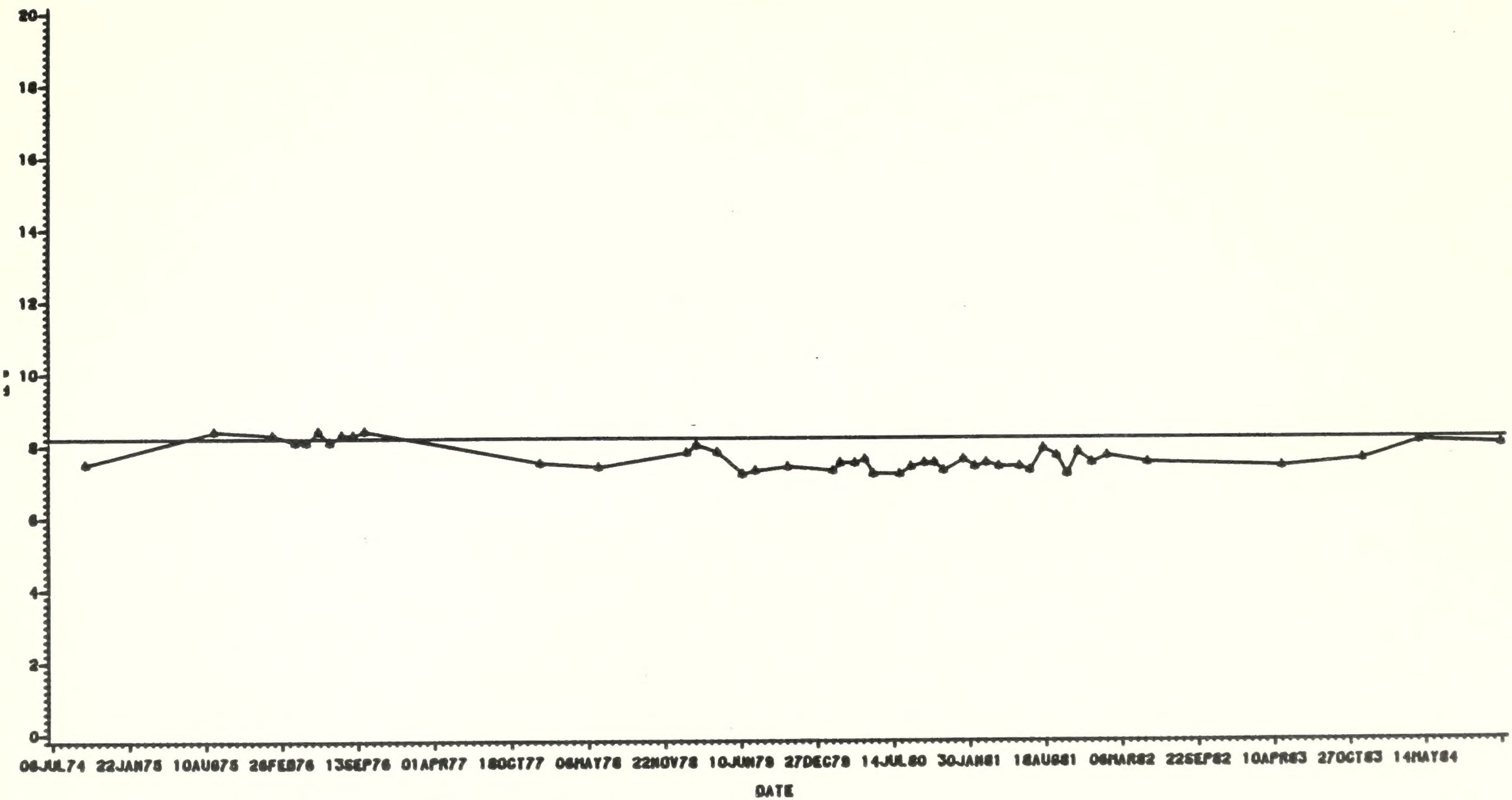
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA03



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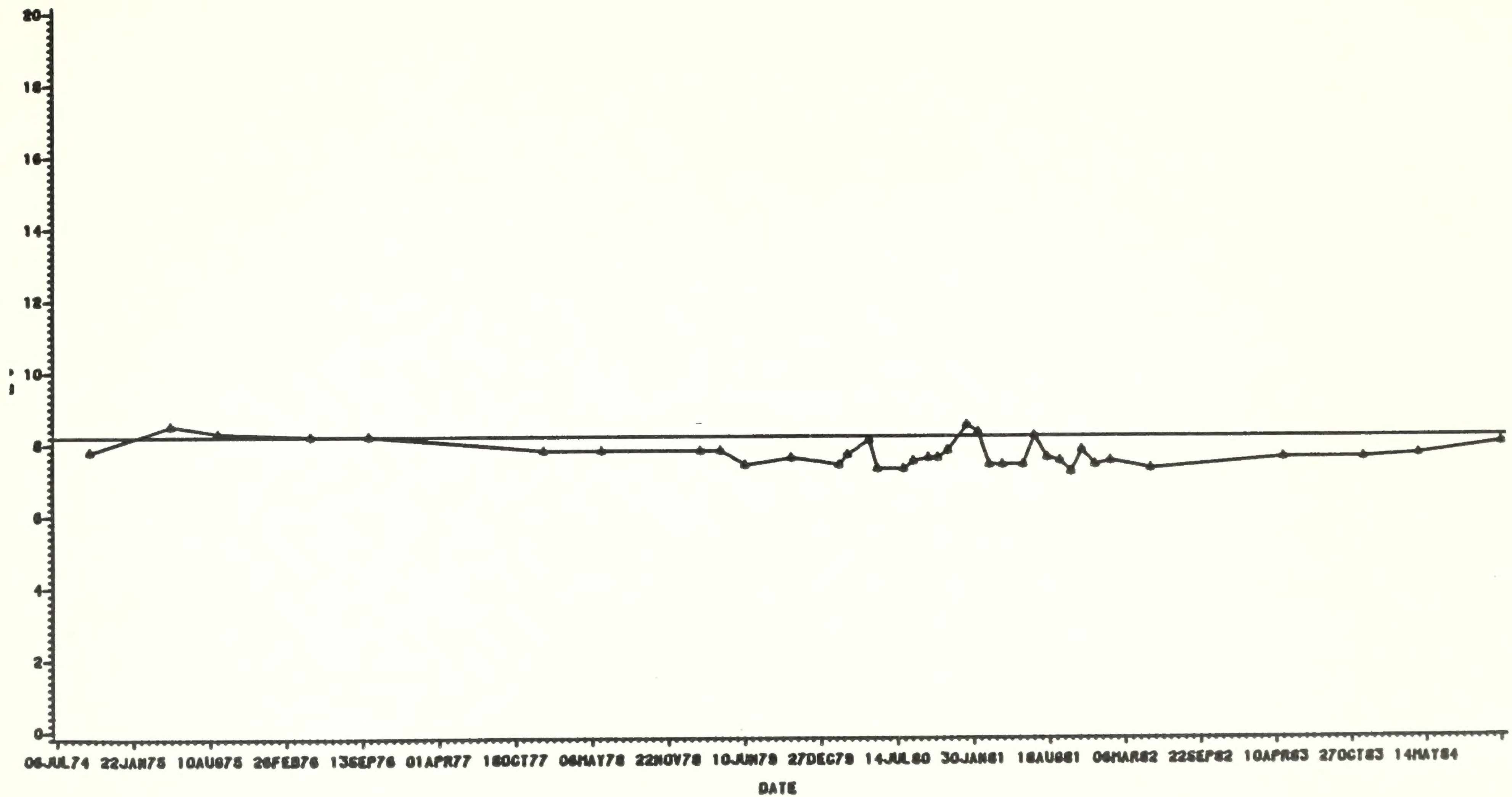
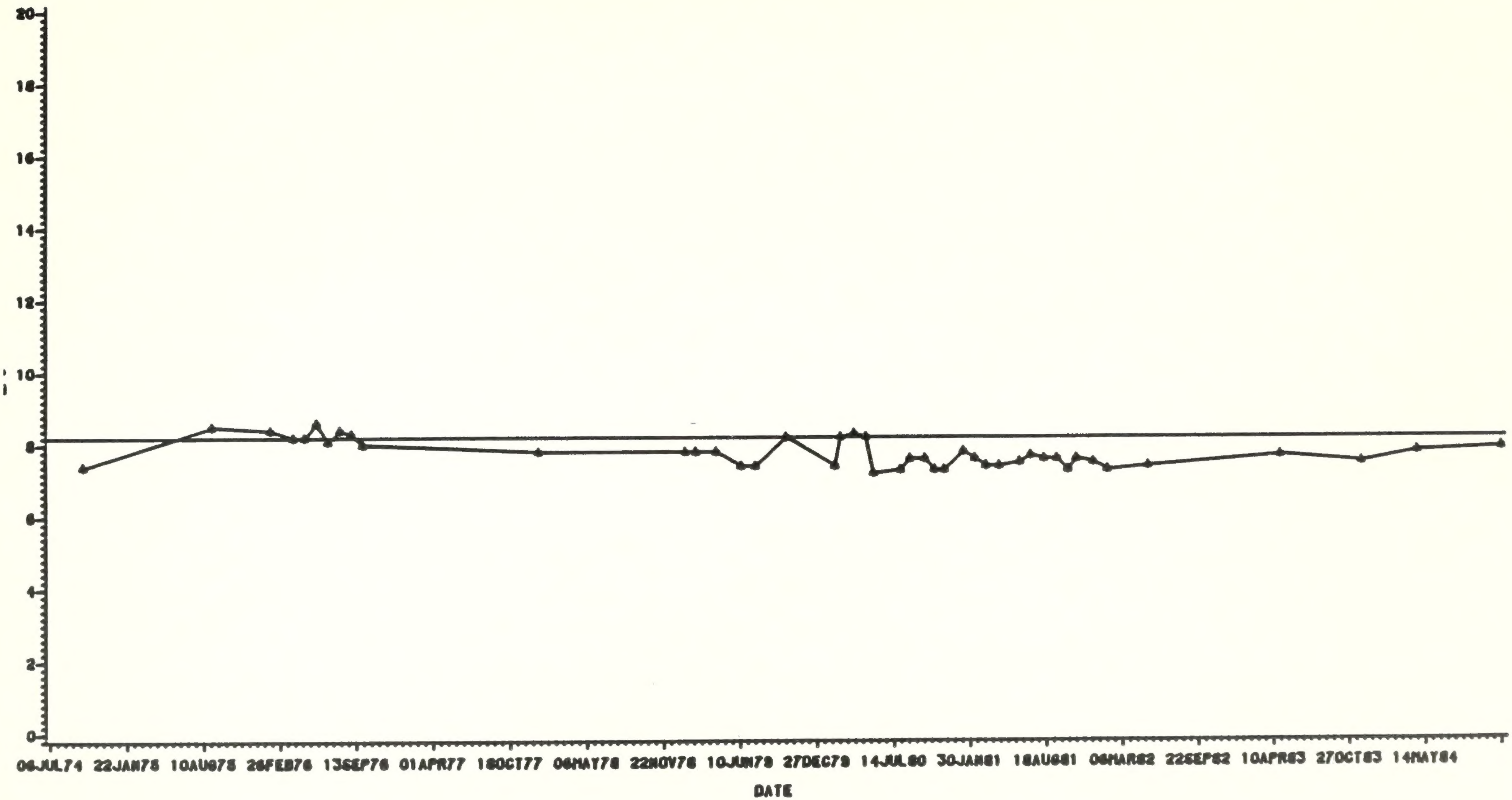
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA05



--- (BASELINE MEAN 8.2 UNITS)

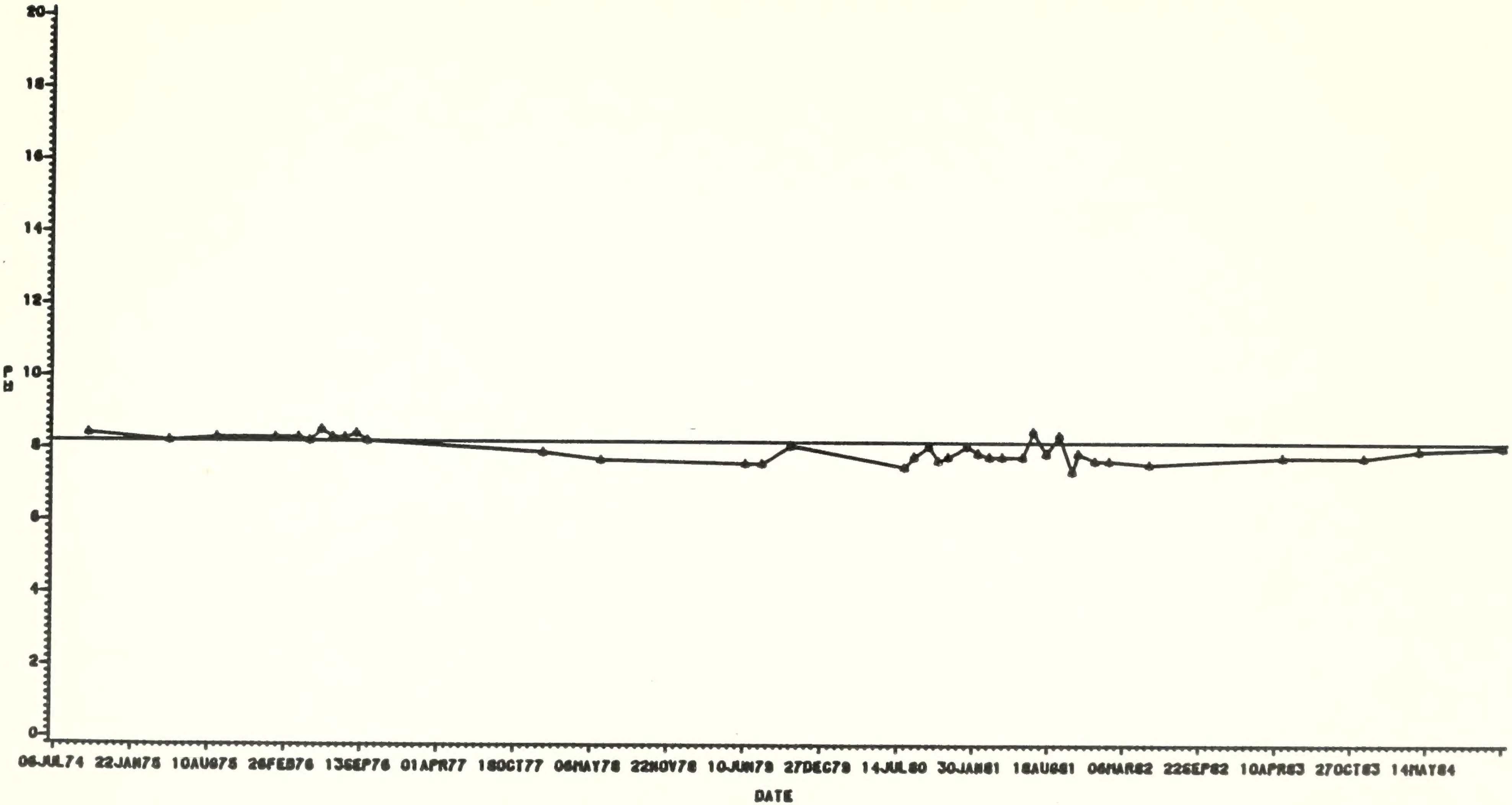
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA06



--- (BASELINE MEAN 8.2 UNITS)

FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA07



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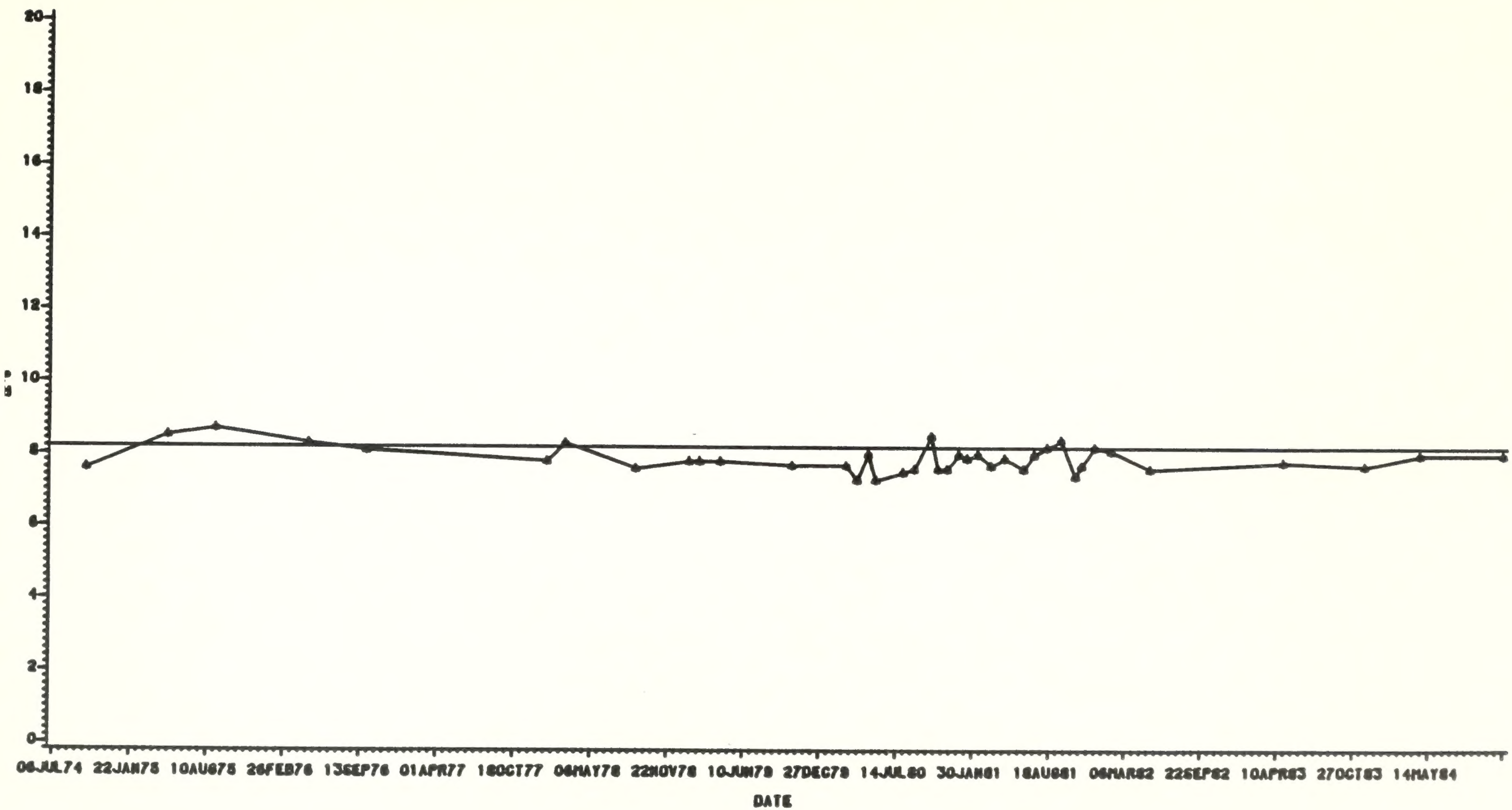
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA08



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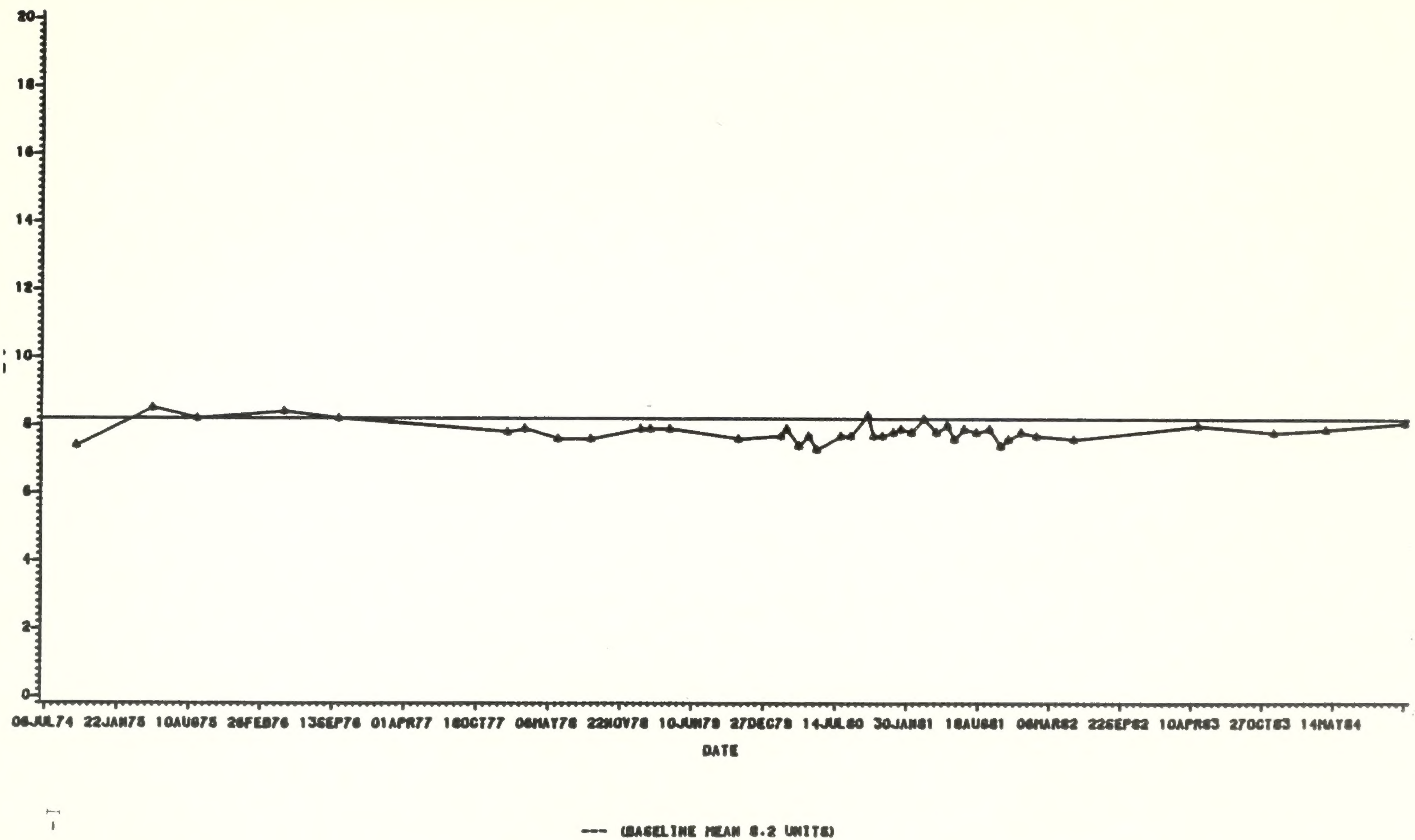
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

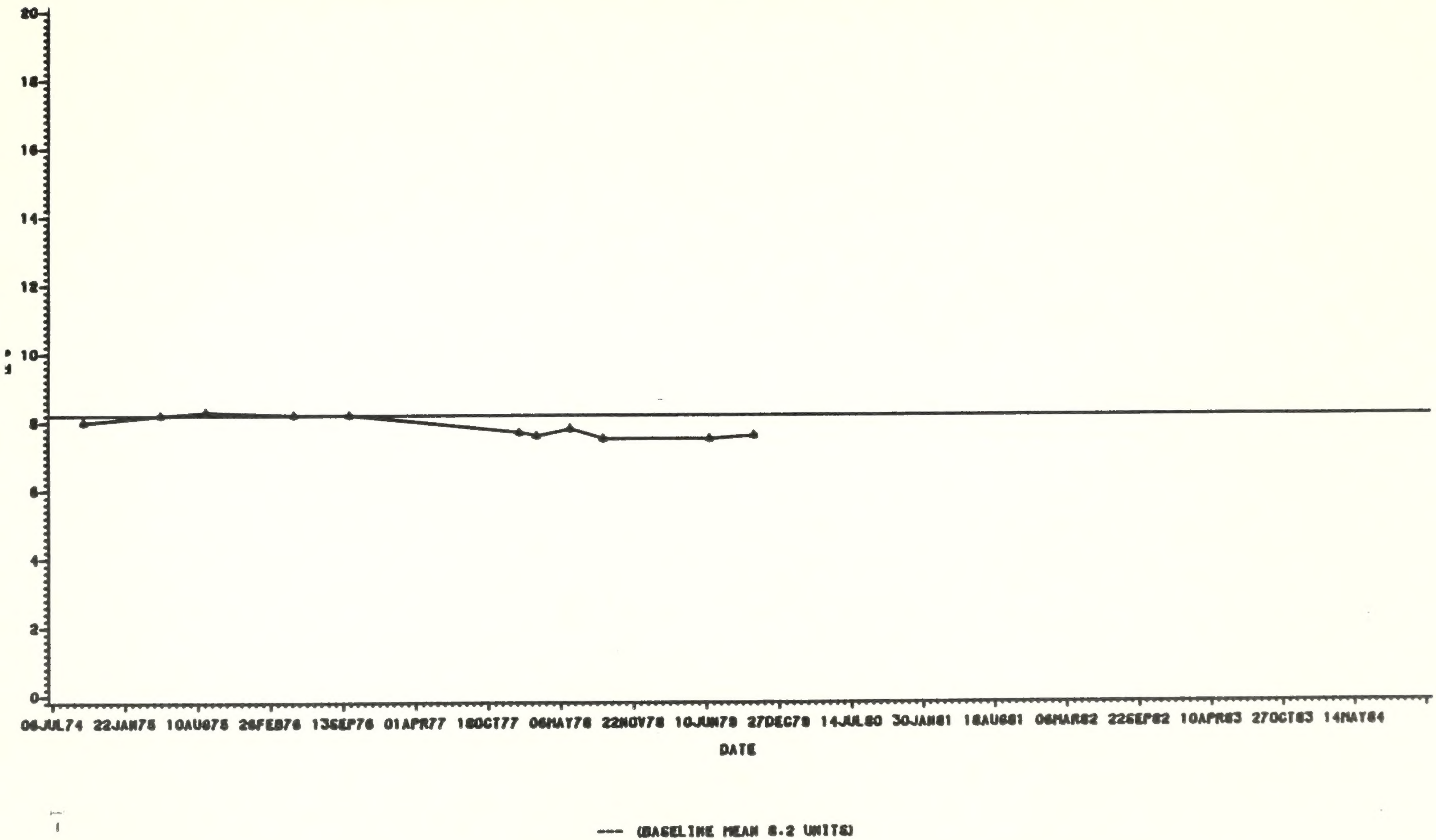
LOC=WA08



I- 3/0

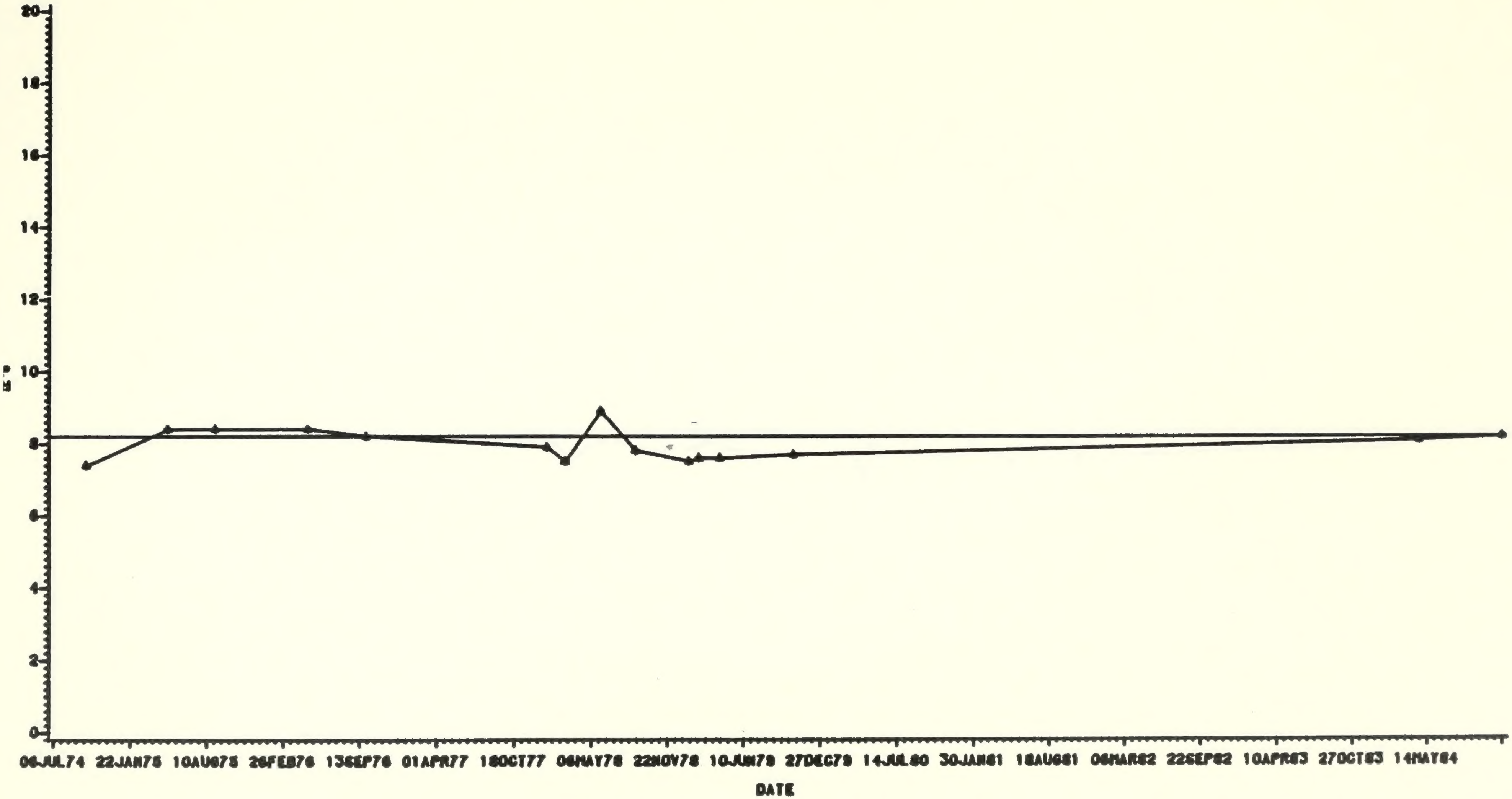
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA10



FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

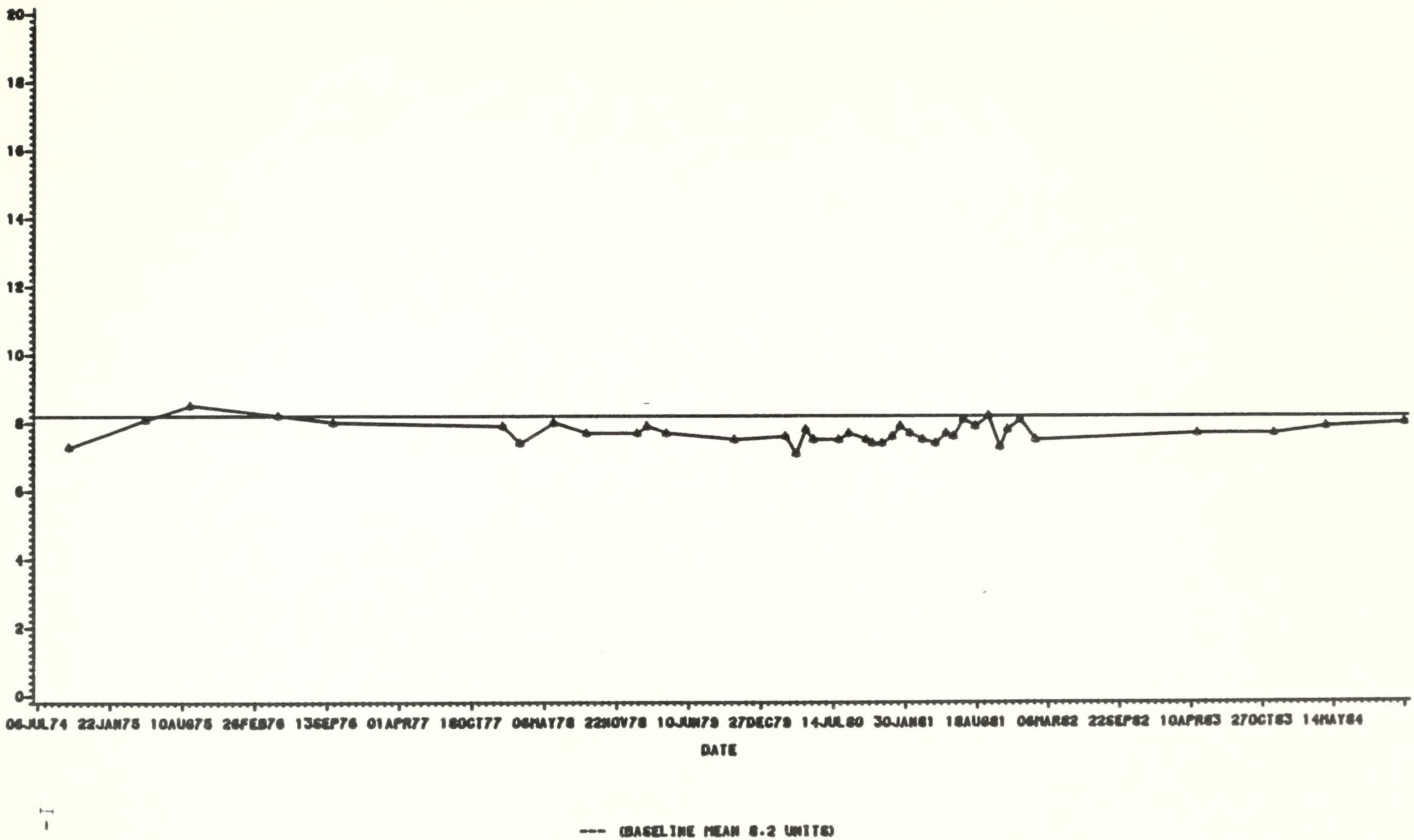
LOC=WA11



--- (BASELINE MEAN 8.2 UNITS)

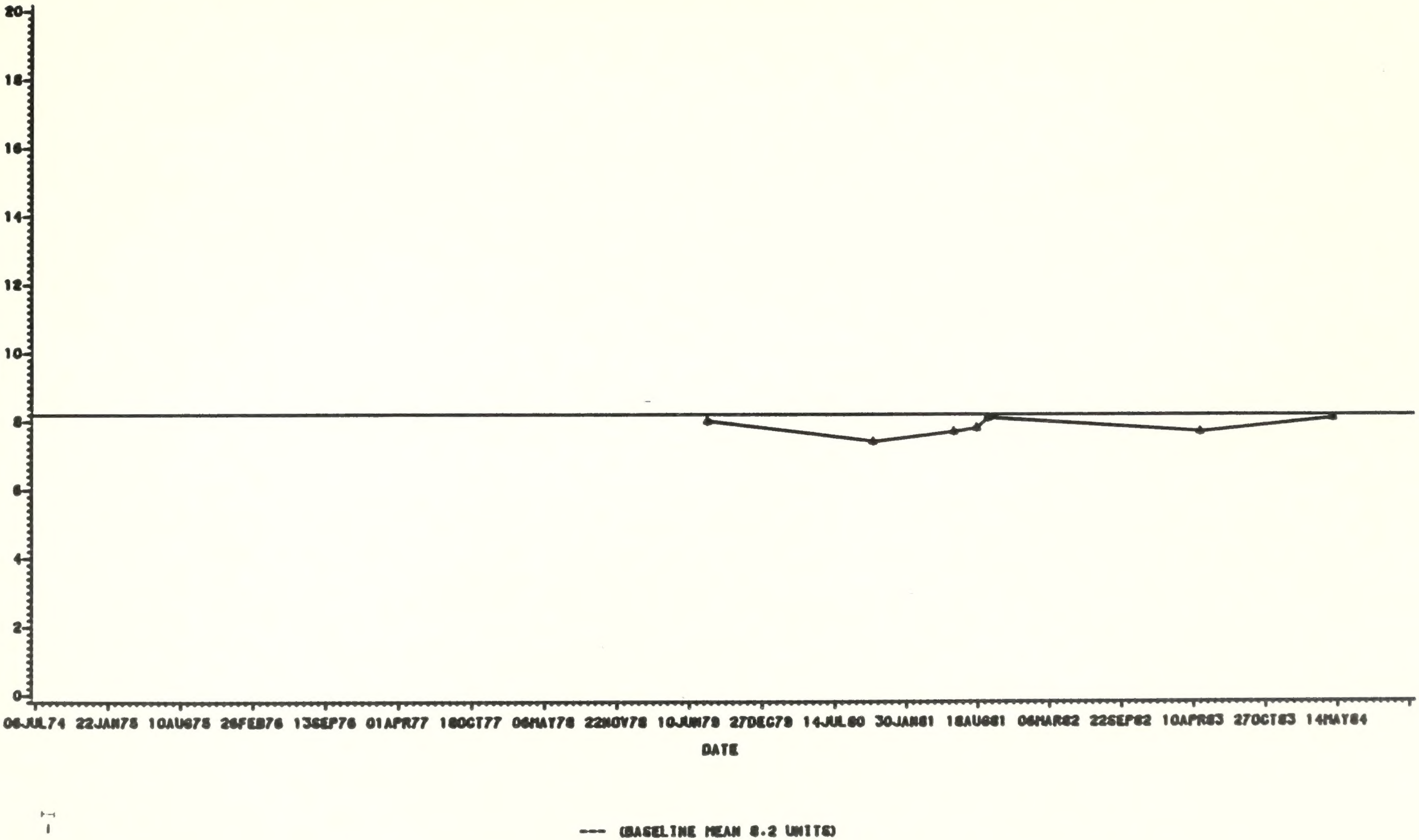
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA12



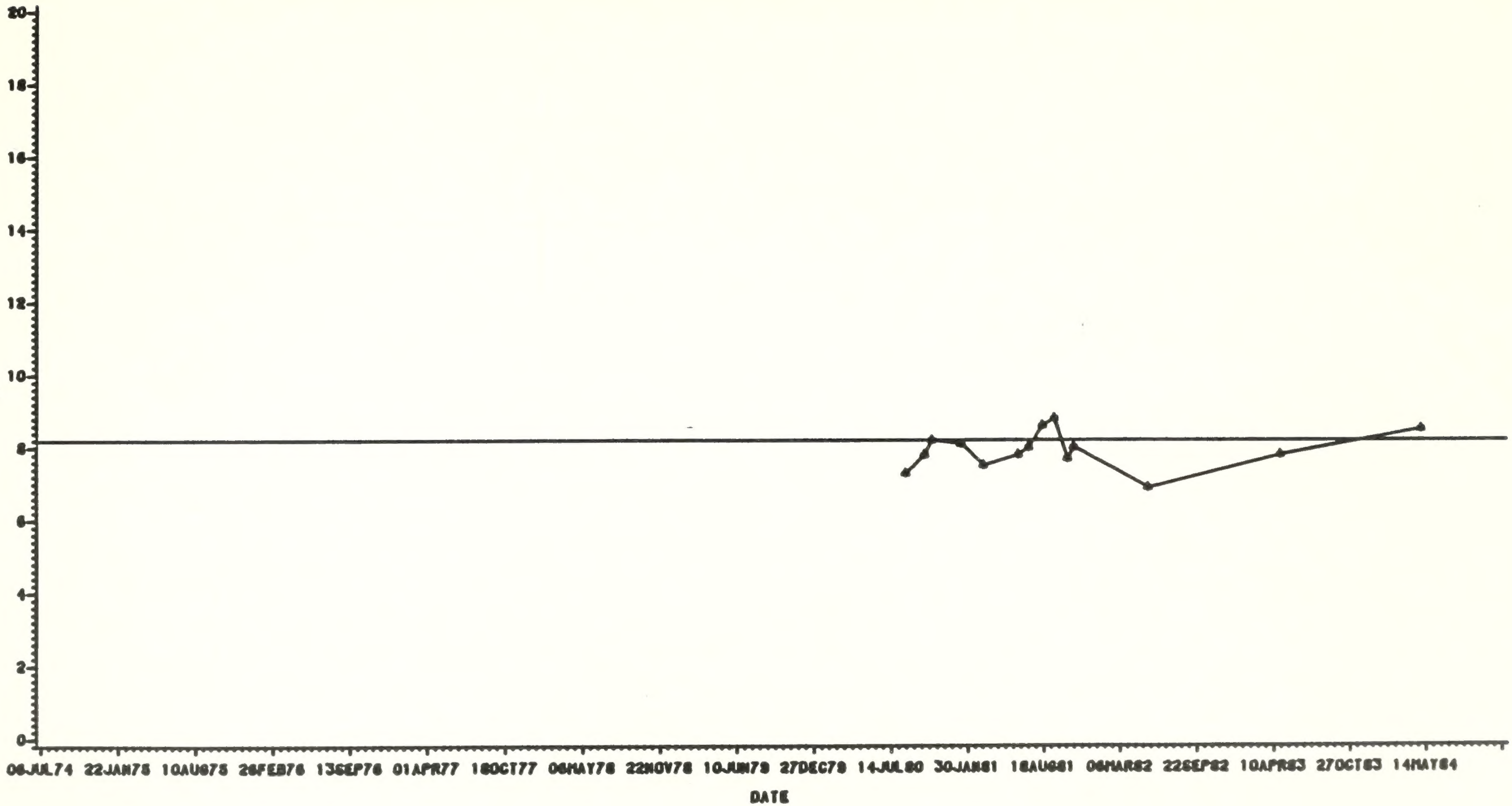
FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WASS



FIELD PH (UNITS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA56



FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

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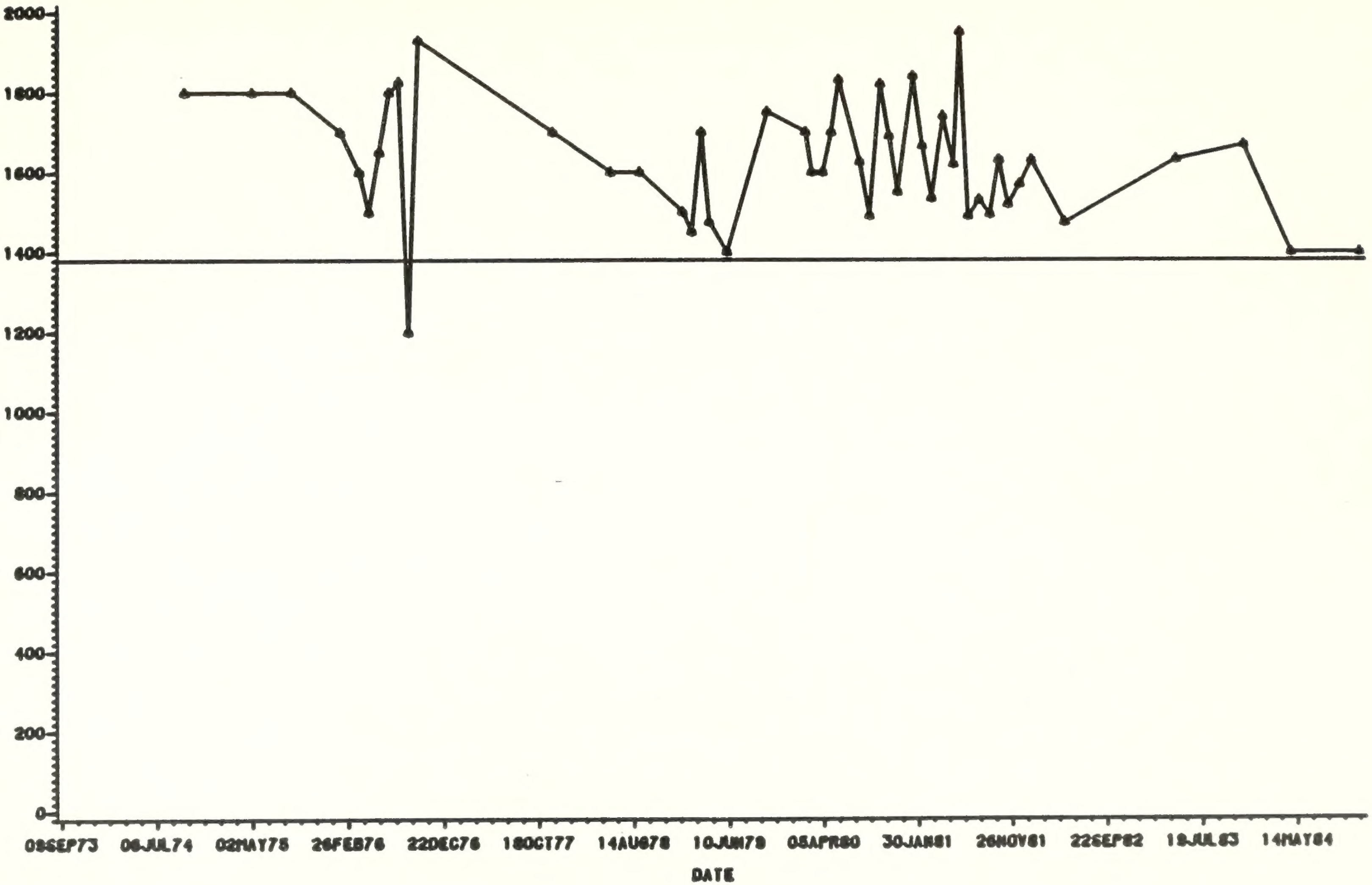
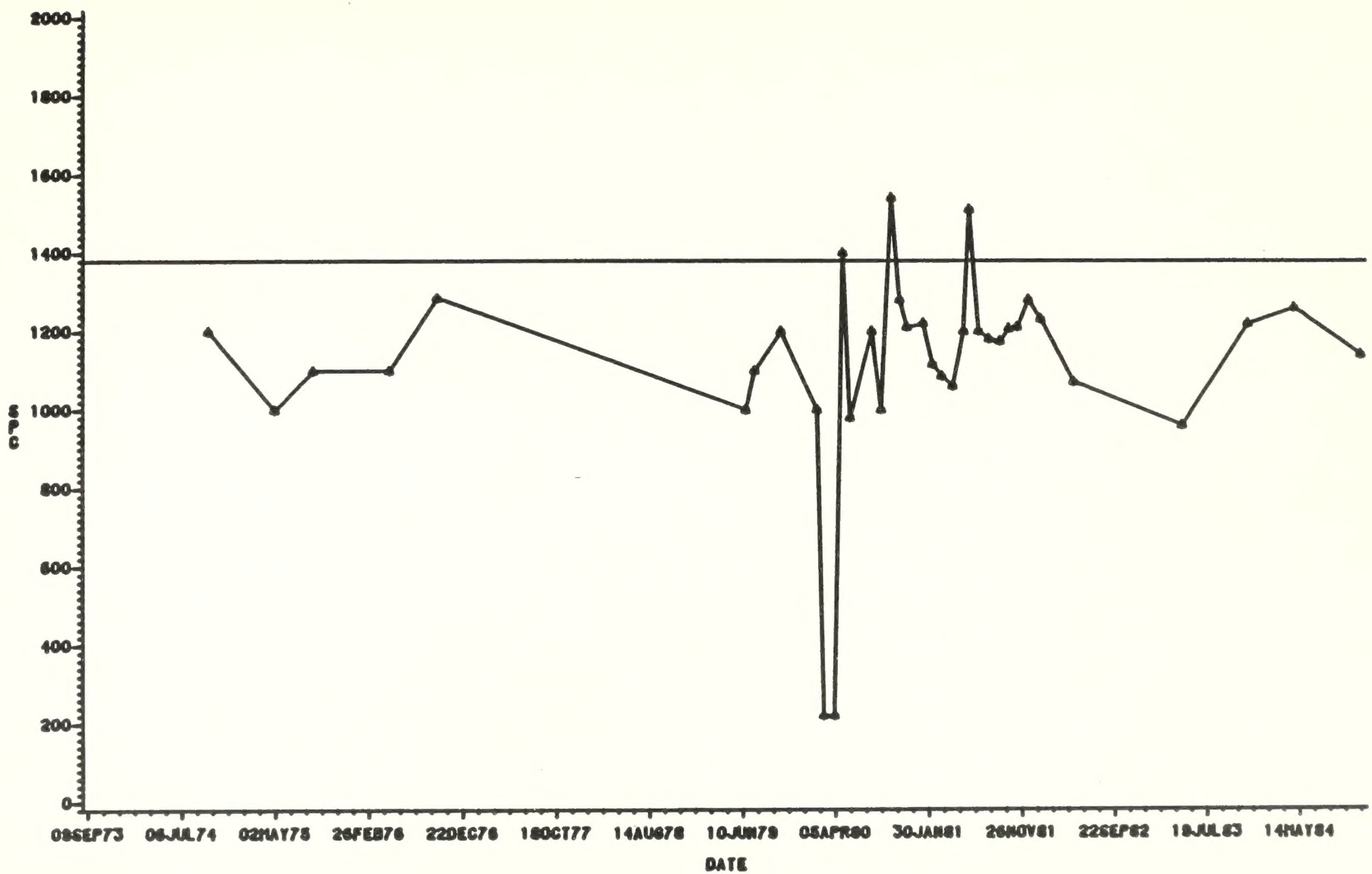


--- (BASELINE MEAN 1380 UMHOS)

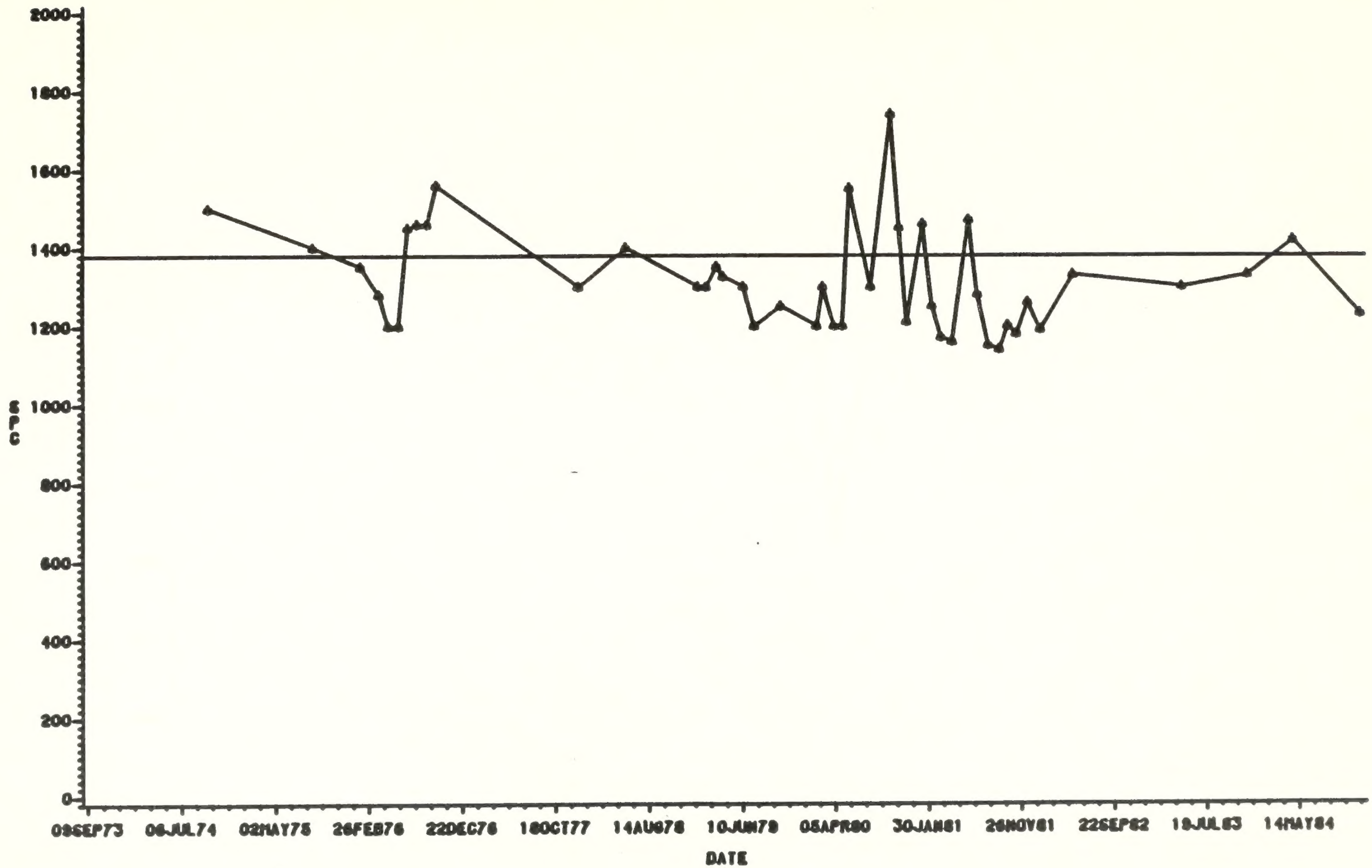
FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA02



--- (BASELINE MEAN 1380 UMHOS)

FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

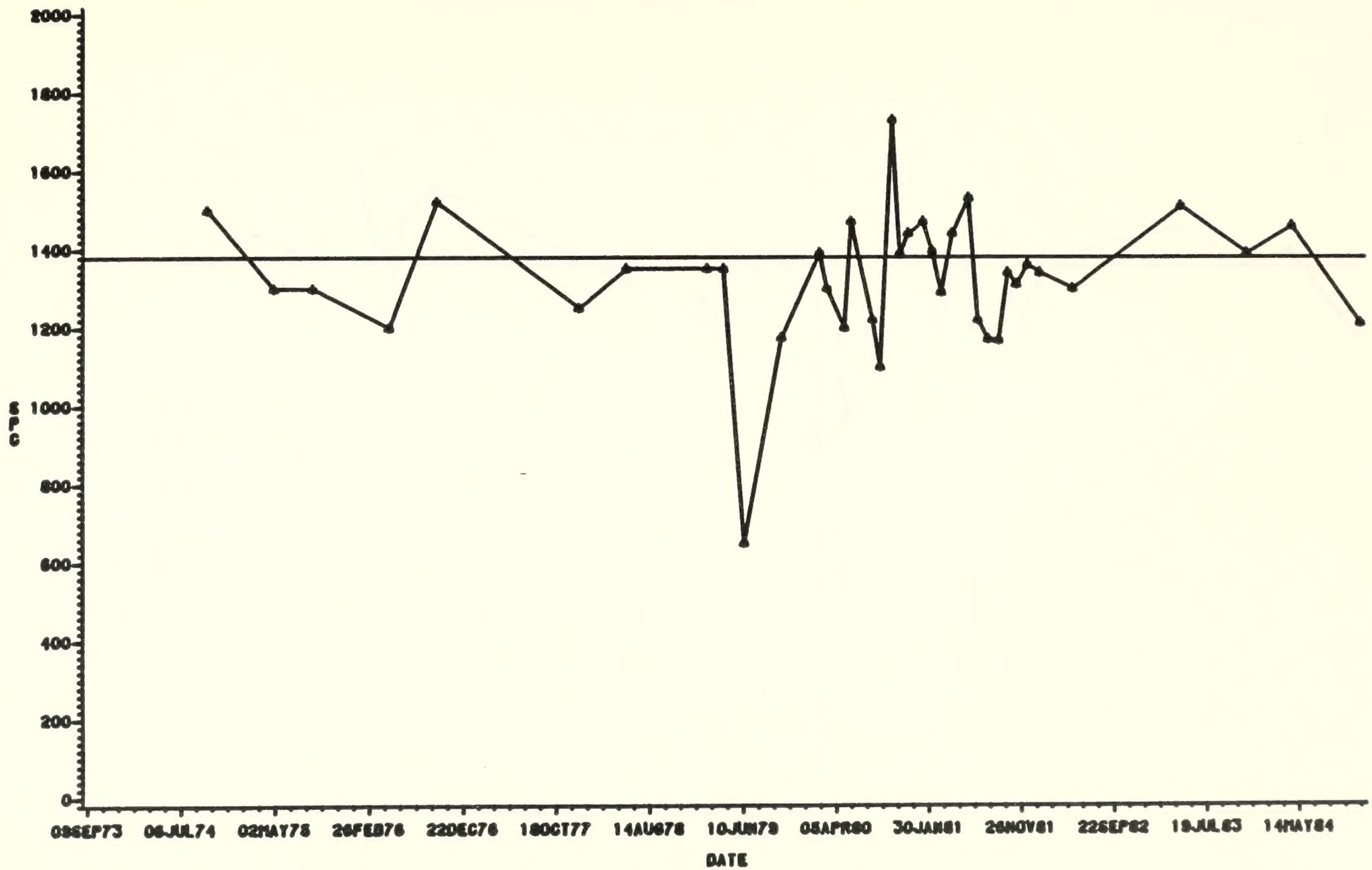
LOC=WA03



--- (BASELINE MEAN 1380 UMHOS)

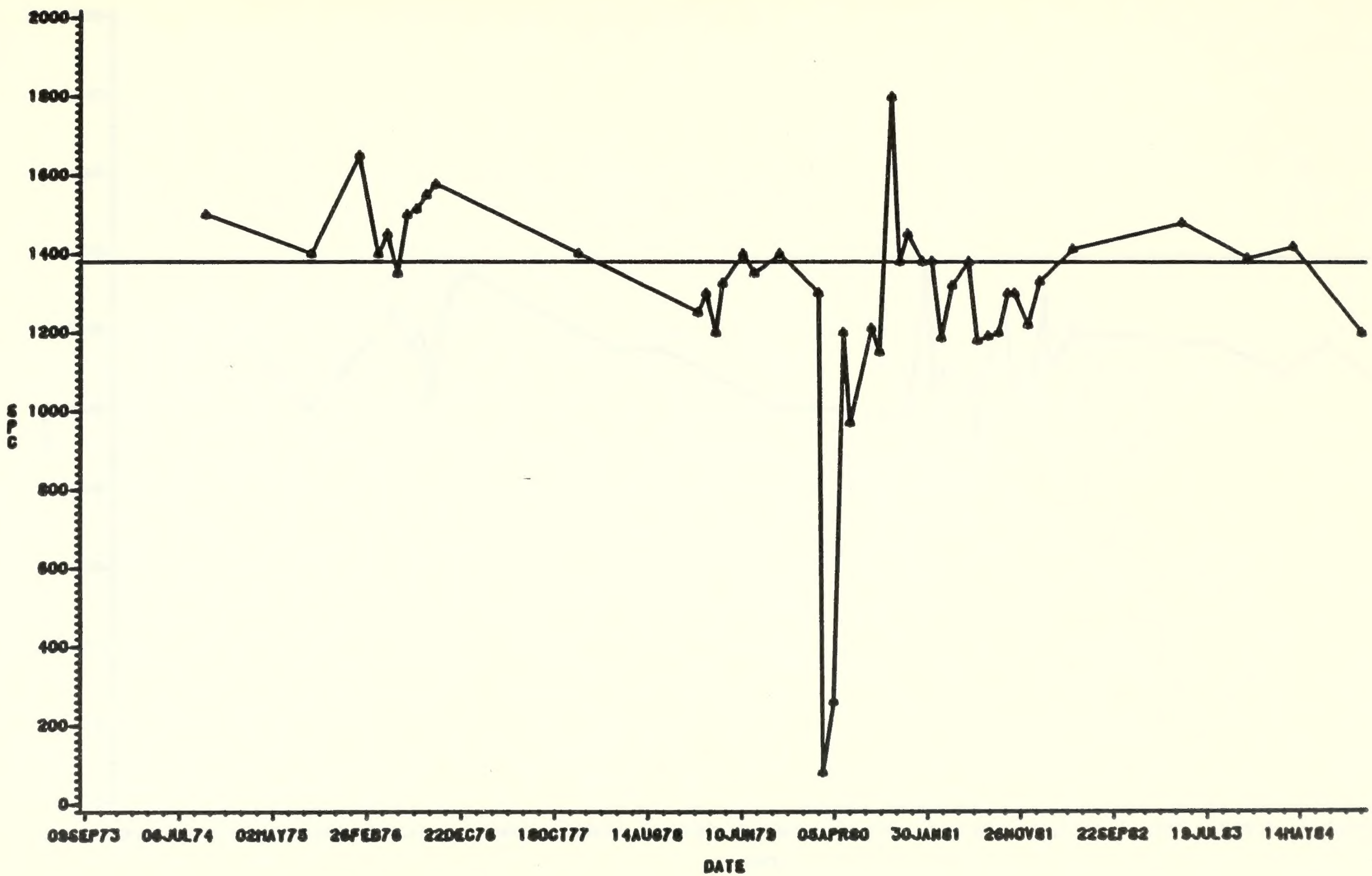
FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA06



--- (BASELINE MEAN 1380 UMHOS)

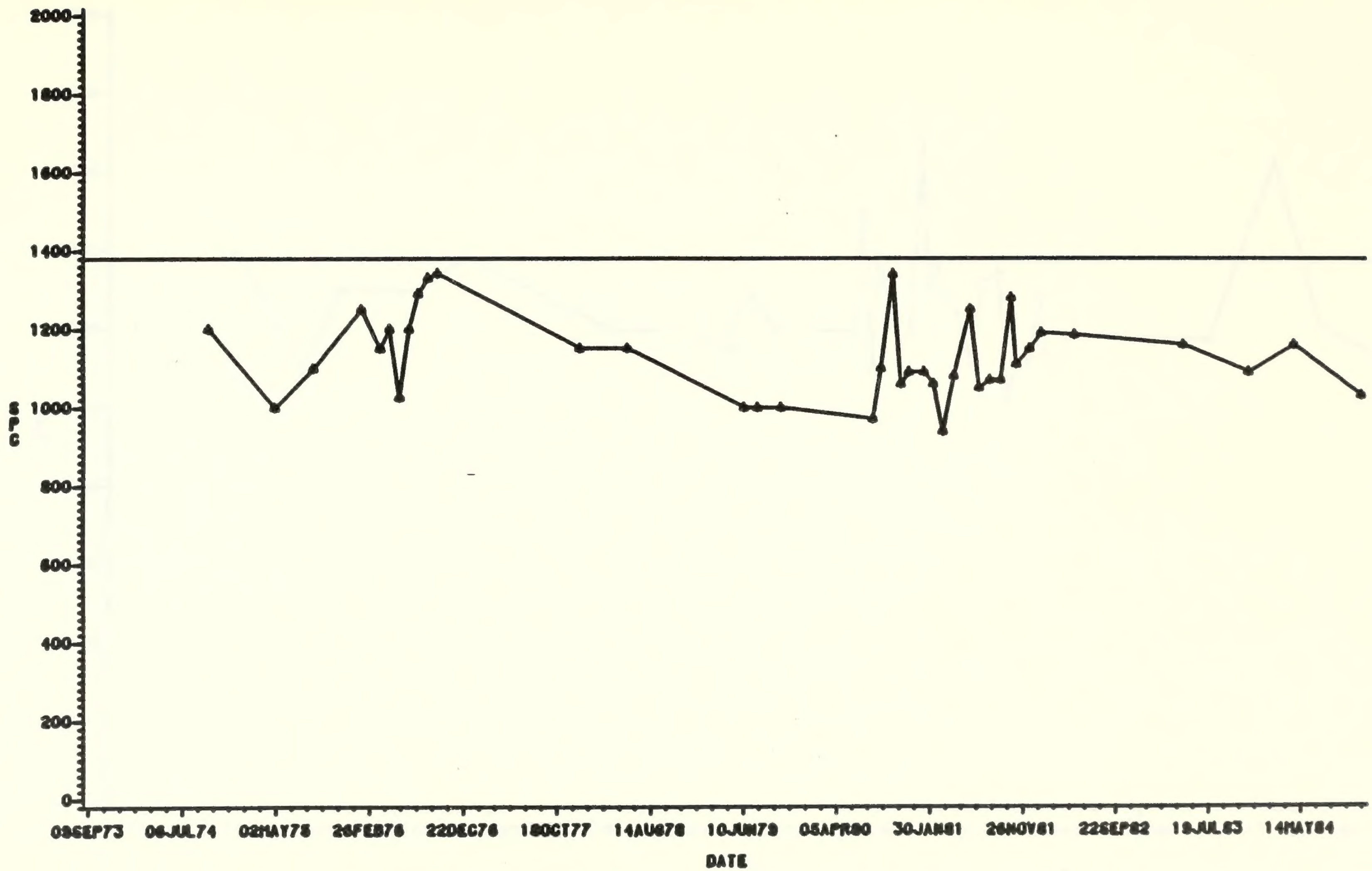
FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS
LOC=WA06



--- (BASELINE MEAN 1380 UMHOS)

FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

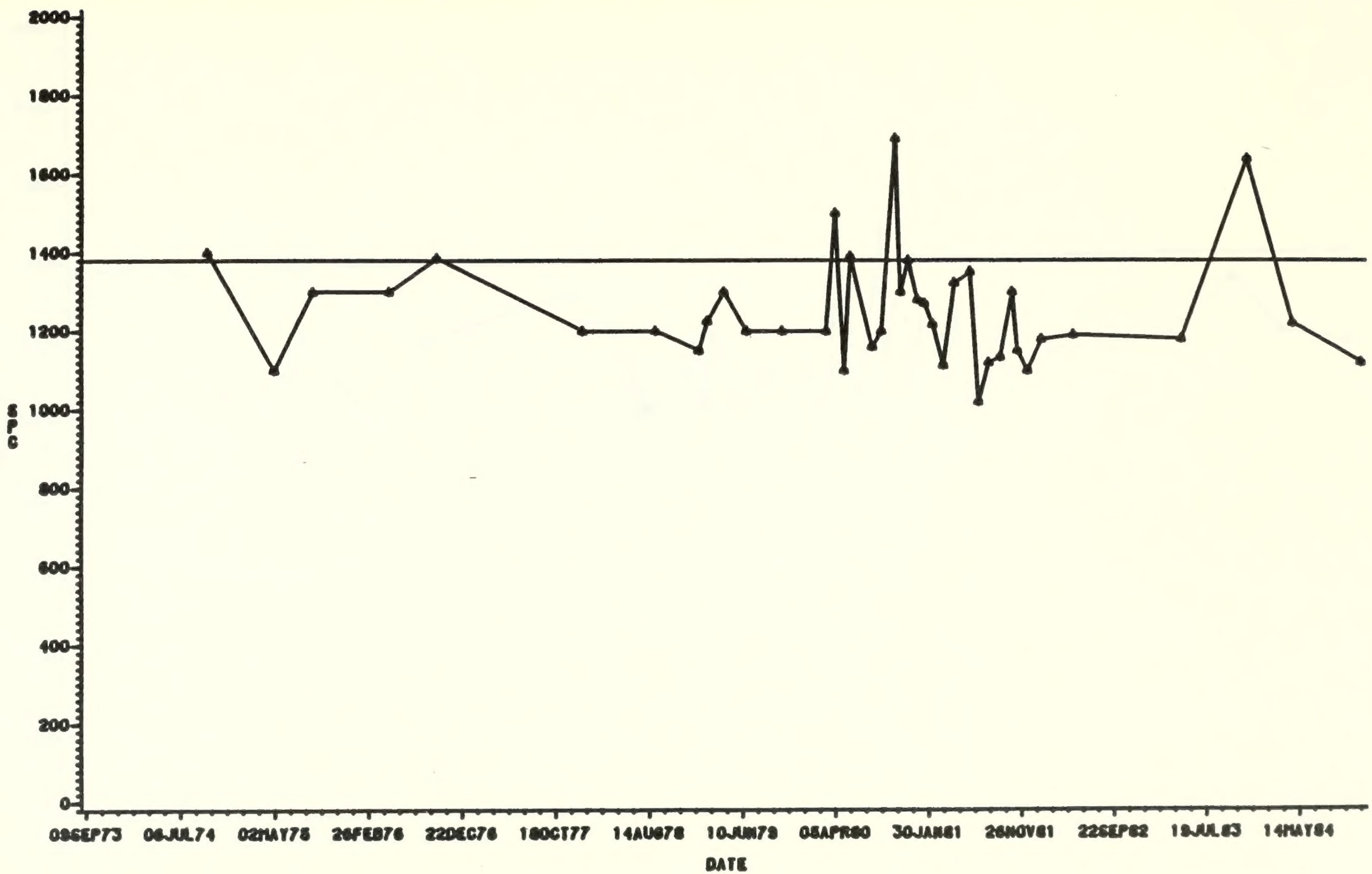
LOC=WA07



--- (BASELINE MEAN 1380 UMHOS)

FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

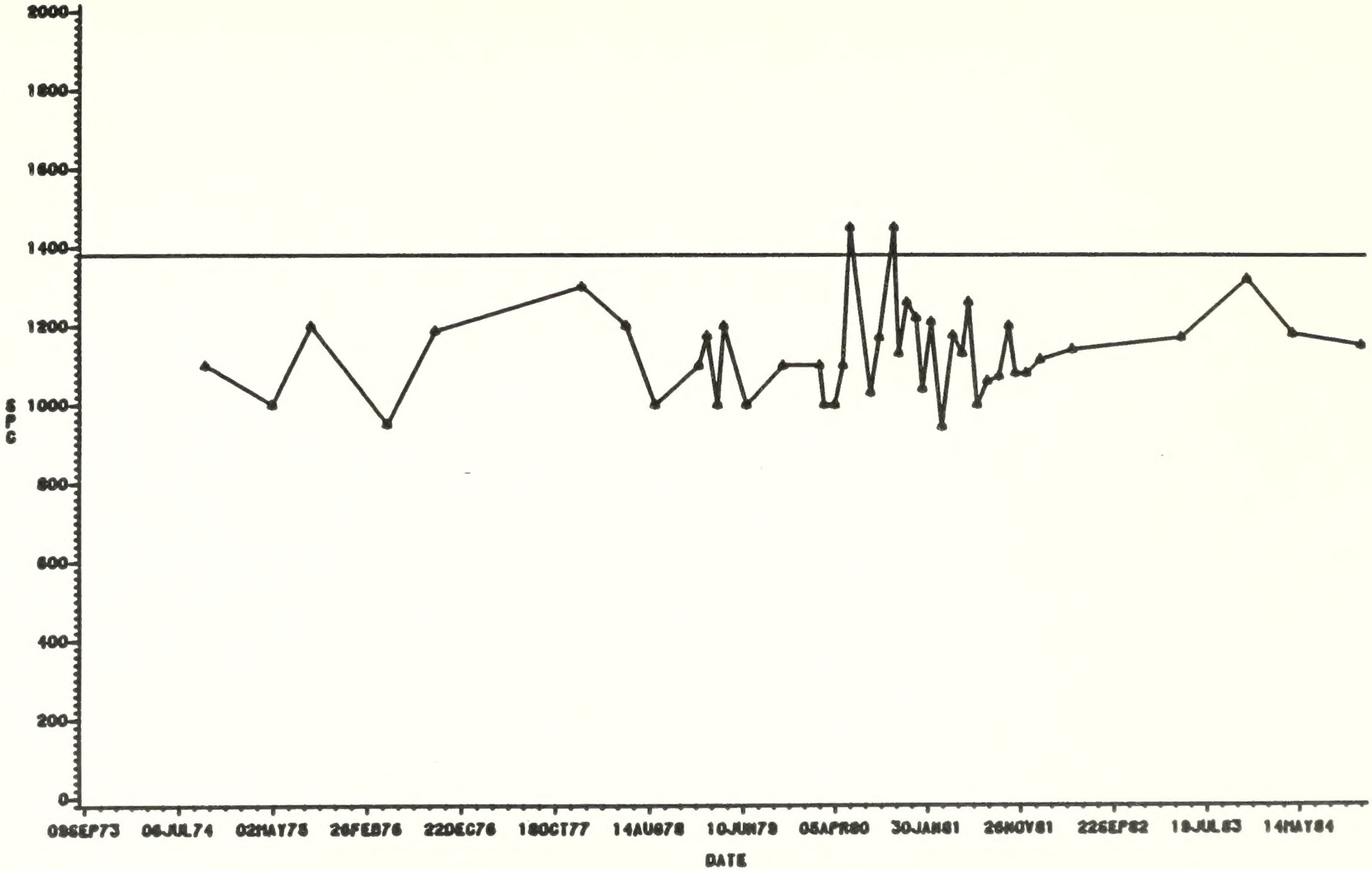
LOC=WAO8



--- (BASELINE MEAN 1380 UMHOS)

FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

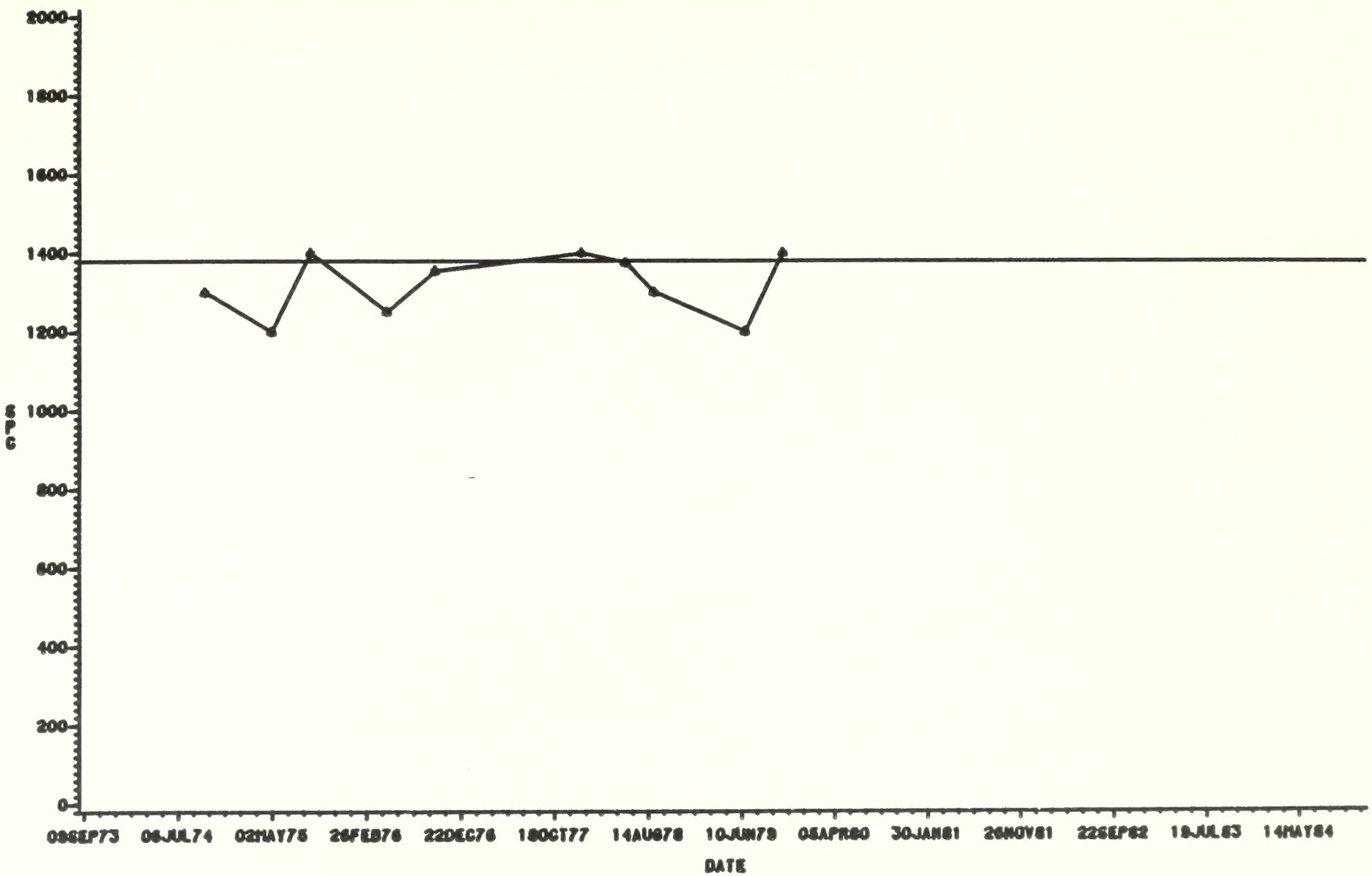
LOC=WA09



--- (BASELINE MEAN 1380 UMHOS)

FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

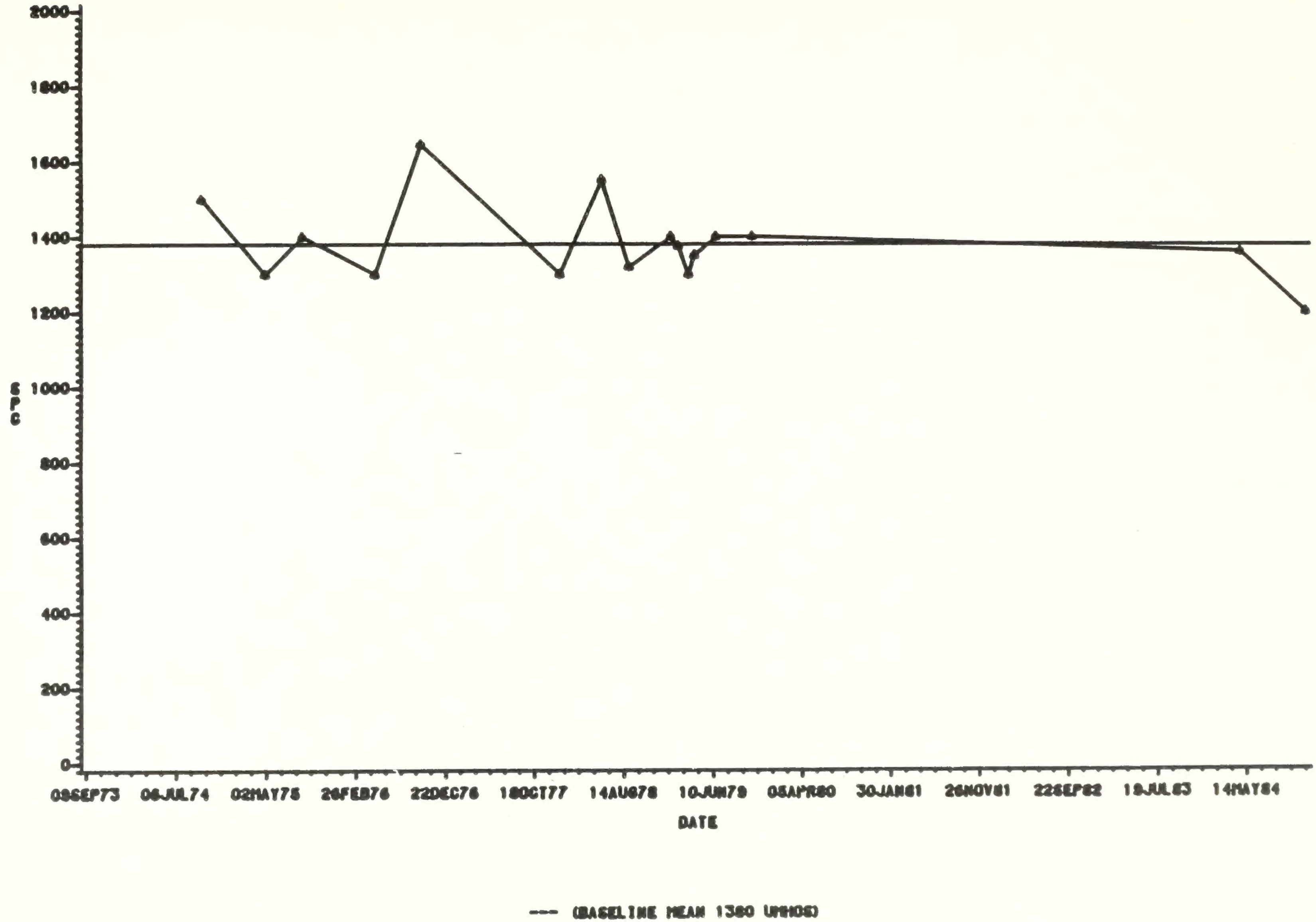
LOC=WA10



--- (BASELINE MEAN 1380 UMHOS)

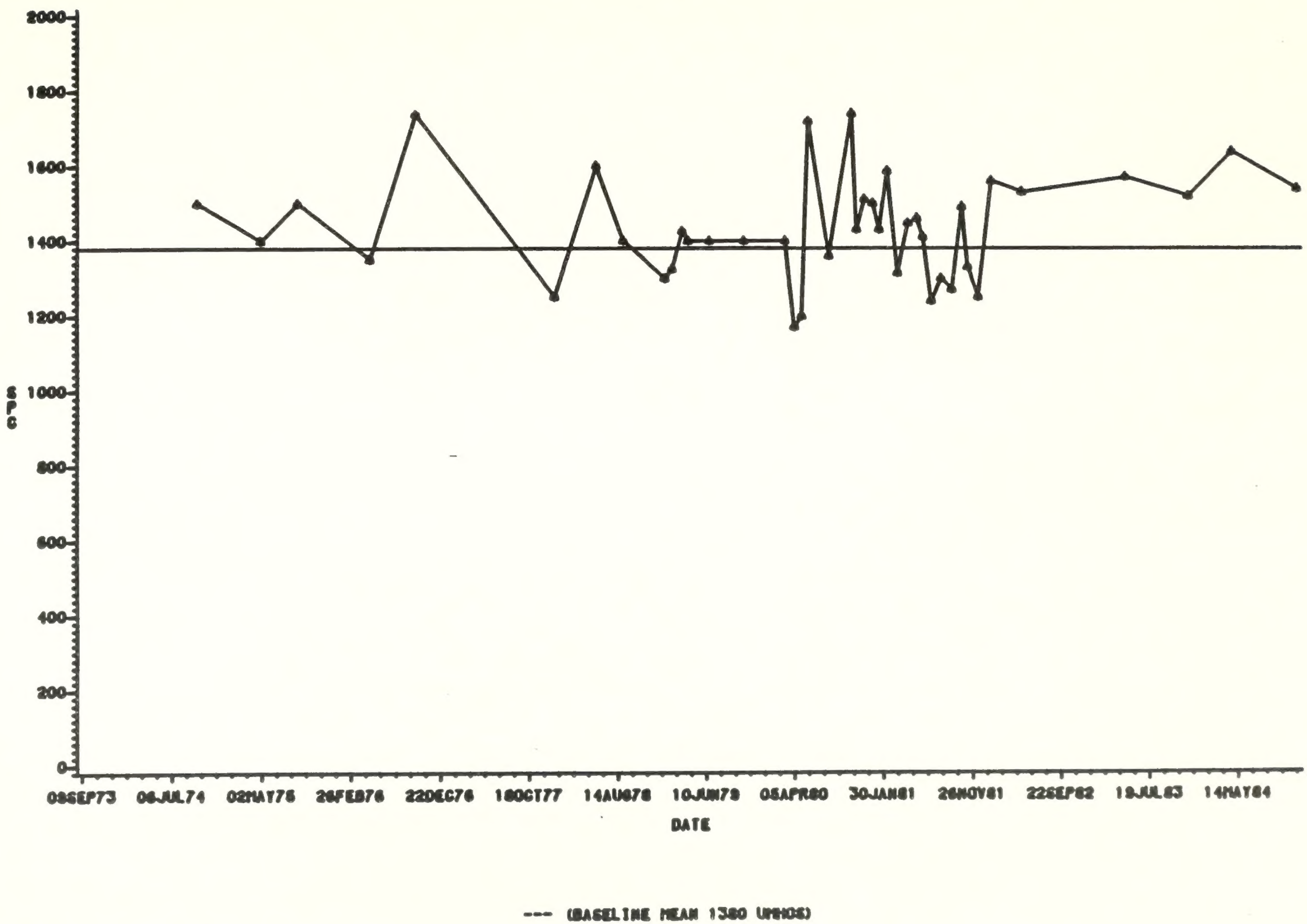
FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA11



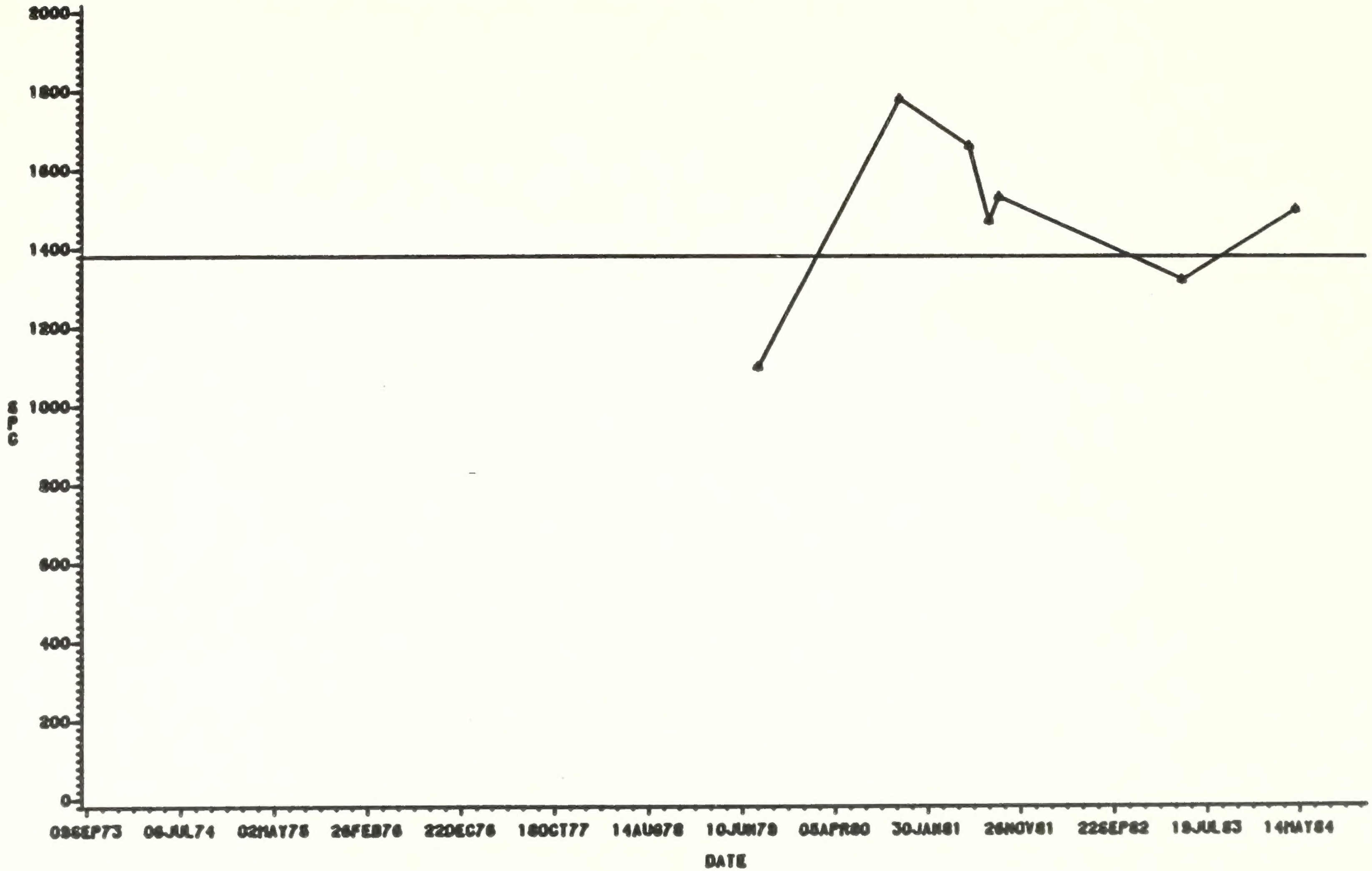
FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA12



FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

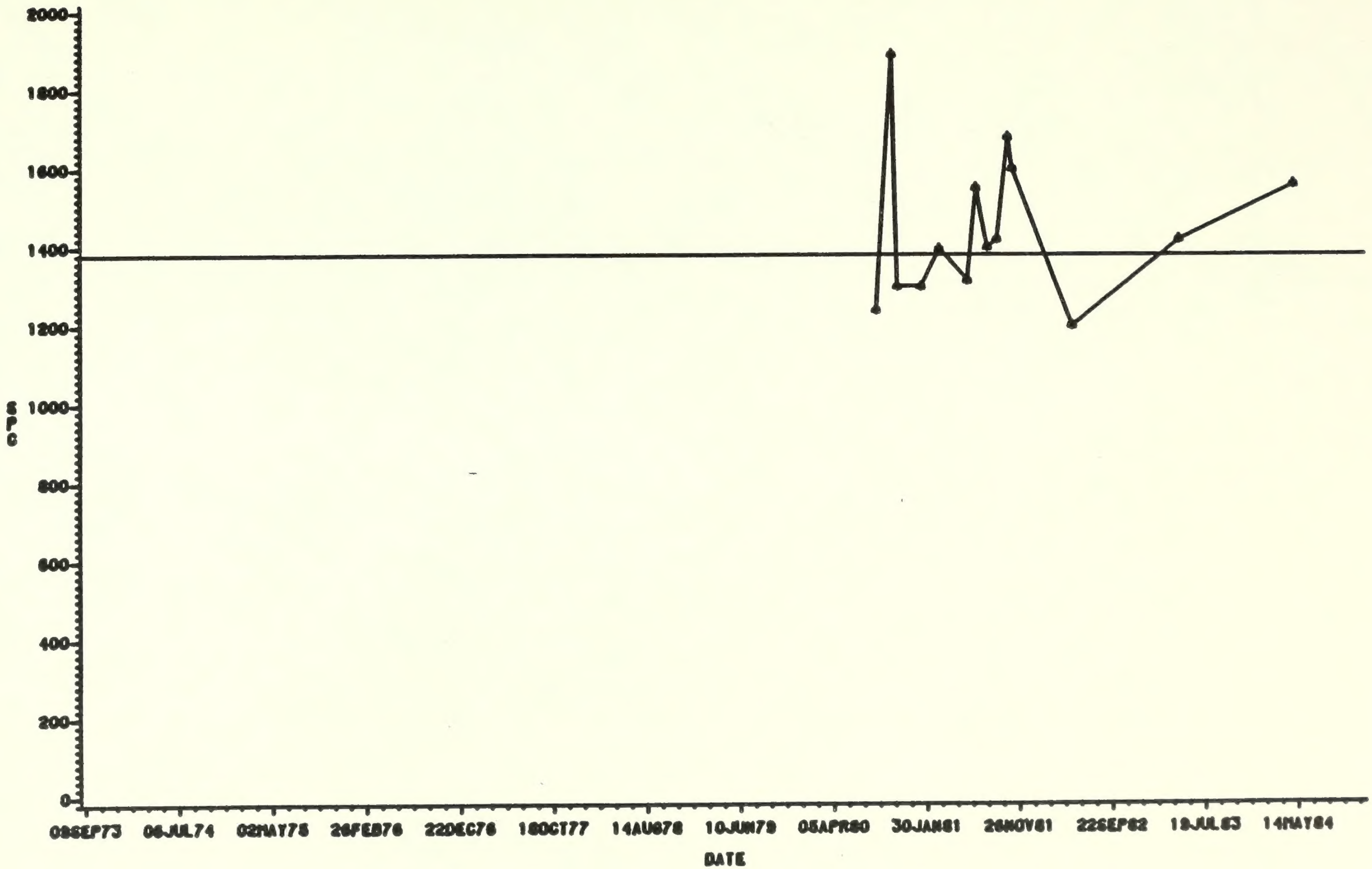
LOC=WASS



--- (BASELINE MEAN 1380 UMHOS)

FIELD SPC (UMHOS) TIME SERIES OF ALLUVIAL WELL WATERS

LOC=WA56



--- (BASELINE MEAN 1380 UMHOS)

BEDROCK
WELLS

1.2.2.4 Bedrock Wells

During the Interim Monitoring Program water quality samples are taken quarterly or semiannually, depending on the well, for the following parameters.

TABLE 1.2.2.4-1

Parameters Analyzed During IMP

Field Measurements: pH, temperature, dissolved oxygen, conductivity.

As	Pb	K	Ba
Mo	Ca	HCO_3	CO_3
Cr	Cl	Mg	SO_4
Cu	Li	Fluoride	TDS
Fe	Al	B	Oil and Grease
Hg	Sr	BOC	SiO_2
Mn	Se	Phenols	Cn
Radiology	Zn	Ammonia	Total phosphate
Na	COD	Hardness	
Br	Alkalinity	NO_3	

Field measurements of pH, temperature and specific conductance were taken at six wells in June or July 1984. See Table 1.2.2.4-2.

Samples were taken in June, July and September 1984 at eight wells. Refer to Tables 1.2.2.4-3 through 1.2.2.4-6 of lab analysis results from UPC1, UPC2, LPC3, LPC4 and lower aquifer bedrock wells.

TABLE 1.2.2.4-2

CB-TRACT
FIELD MEASUREMENTS
BEDROCK MONITORING WELLS

WELL	YR	MO	DY	PH (UNITS)	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	FIELD FLUORIDE (MG/L)
WD12	84	6	12				
			25	8.5	13.0	1140.0	
		7	30				
		8	31				
		9	27				
		10	29				
		11	29				
WD20	84	6	18				
		7	2				
			23				
		8	31				
		9	26				
		10	29				
		11	30				
WD57	84	6	25	7.8	14.0	1110.0	
		8	29				
		10	30				
WD90	84	6	18				
			28	7.1	13.0	2280.0	
		7	31				
		8	30				
		9	17	7.3	11.0	2220.0	
		10	25				
		11	30				
WE20	84	6	18				
		7	2	8.9	14.0	2680.0	
			23				
		8	31				
		9	26				
		10	29				
		11	30				
WG12	84	6	12				
			25	8.5	14.0	4280.0	
		7	30				
		8	31				
		9	27				
		10	29				
		11	29				
WG20	84	6	18				

TABLE 1.2.2.4-2 (Cont'd)

CB-TRACT
FIELD MEASUREMENTS
BEDROCK MONITORING WELLS

WELL	YR	MO	DY	PH (UNITS)	TEMPERATURE (DEG C)	SPECIFIC CONDUCTANCE (UMHOS)	FIELD FLUORIDE (MG/L)
WG20	84	7	2	9.2	14.0	2660.0	
			23				
		8	31				
		9	26				
		10	29				
		11	30				

TABLE 1.2.2.4-3

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
UPCI BEDROCK WELLS

WELL	YR	MO	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHENOLS (MG/L)	K (MG/L)	B (MG/L)	TOTAL DISS SOLIDS (MG/L)	SR (MG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WD12	84	6	.030	-1.00	-10.0	-.0100	.2	.10	620.0	6.4	170.0	7.0	-50.0	-.020	-.020
WD20	84	7	.016	-1.00	-10.0	.0020	.8	.30	810.0	.6	25.0	6.0	40.0	-.005	-.005
WD57	84	6					.9			9.4					

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-3 (Cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
UPCI BEDROCK WELLS

WELL	YR	MO	SIO2 (MG/L)	CN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WD12	84	6	11.0		-.01	-.10	-.00020	-.010		.010	-.020	-.05	.024	.03	2.70
WD20	84	7	2.1		.05	2.00	.00010	-.005		.005	-.005	-.05	.012	.02	12.00
WD57	84	6								.041		.08	.009		

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-3 (Cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
UPCI BEDROCK WELLS

WELL	YR	MO	TOTAL ALK (MG/L CACO3)	AL (MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WD12	84	6	440.0	-.100	-.040	-.005	-.50	430.0	10.0	.230	220.0	190.0	44.0	12.0
WD20	84	7	690.0	-.500	.600	-.005	.30	660.0	30.0	.470	23.0	340.0	3.3	3.4
WD57	84	6				.007			280.0		280.0	170.0	48.0	30.0

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-4

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
UPC2 BEDROCK WELLS

WELL	YR	MO	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHENOLS (MG/L)	K (MG/L)	B (MG/L)	TOTAL DISS SOLIDS (MG/L)	SR (MG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WE20	84	7	.014	-1.00	-10.0	.0020	3.0	1.30	1700.0	.6	65.0	38.0	20.0	-.005	-.005

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-4 (Cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
UPC2 BEDROCK WELLS

WELL	YR	MO	SIO2 (MG/L)	CN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WE20	84	7	5.4		.50	6.00	-.00010	-.005		-.005	-.005	.17	.006	.12	31.00

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-4 (Cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
UPC2 BEDROCK WELLS

WELL	YR	MO	TOTAL ALK (MG/L CACO3)	AL (MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WE20	84	7	1400.0	-.500	1.600	-.005	.50	1300.0	100.0	1.700	23.0	730.0	2.1	.4

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-5

CH-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
LPC3 AND LPC4 BEDROCK WELLS

WELL	YR	MO	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHENOLS (MG/L)	K (MG/L)	H (MG/L)	TOTAL DISS SOLIDS (MG/L)	SR (MG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WG12	84	6	.050	-1.00	-10.0	-.0100	5.2	6.30	2700.0	1.0	30.0	130.0	-50.0	-.020	.020
WG20	84	7	.017			-.0020	2.3			.3				-.005	-.005

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-5 (Cont'd)

CH-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
LPC3 AND LPC4 BEDROCK WELLS

WELL	YR	MO	SIO2 (MG/L)	CN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WG12	84	6	14.0		.07	-.10	-.00020	-.010		.042	-.020	.44	.009	.06	27.00
WG20	84	7				13.00	-.00010	-.005		.013	-.005	.14	-.005	.09	

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-5 (Cont'd)

CH-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
LPC3 AND LPC4 BEDROCK WELLS

WELL	YR	MO	TOTAL ALK (MG/L CACO3)	AL (MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WG12	84	6	2200.0	-.100	-.040	-.005	-.50	2100.0	60.0	5.700	24.0	1200.0	4.8	1.2
WG20	84	7		-.500		-.005	.20		7.0		7.0	730.0	1.5	.3

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-6

CH-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
LOWER AQUIFER BEDROCK WELLS

WELL	YR	MO	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHENOLS (MG/L)	K (MG/L)	B (MG/L)	TOTAL DISS SOLIDS (MG/L)	SR (MG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WY45	84	9	-.005	.83	-10.0	.0020	.8	.20	1200.0	14.0	520.0	8.0	26.0	.006	.005
WY81	84	6	.060	-1.00	-10.0	-.0100	1.7	1.40	1100.0	.8	52.0	8.0	-50.0	-.020	-.020

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-6 (Cont'd)

CH-TRACT
QUARTER AND SEMIANNUALWATER QUALITY ANALYSES
LOWER AQUIFER BEDROCK WELLS

WELL	YR	MO	SIO2 (MG/L)	CN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WY45	84	9	27.0	-.005	.01	2.00	-.00010	-.005	-.005		-.005	-.05	.110	.15	.40
WY81	84	6	9.1		.20	-.10	-.00020	-.010		-.020	-.020	.10	.020	-.02	21.00

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.4-6 (Cont'd)

CB-TRACT
QUARTER AND SEMIANNUAL WATER QUALITY ANALYSES
LOWER AQUIFER BEDROCK WELLS

WELL	YR	MO	TOTAL ALK (MG/L CACO3)	AL (MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WY45	84	9	350.0	-.500	.200	-.005	-.20	340.0	2.0	.200	520.0	200.0	71.0	96.0
WY81	84	6	990.0	-.100	.090	-.020	-.50	970.0	15.0	.450	11.0	540.0	2.6	.5

NOTE: - INDICATES LESS THAN

IMPOUNDMENTS/
LAND APPLICATION/
REINJECTION/DISCHARGE

1.2.2.5 Impoundments/Land Application/Reinjection/Discharge

Data reported in this section comply with NPDES permit changes during this report period. Effective October 1, 1983 the NPDES permit was renewed. Changes were made regarding sampling and reporting requirements.

Water samples were taken at A/B discharge point (WN40) on weekly intervals during June through November 1984. Data tables of these samples are reported in Table 1.2.2.5-1.

Table 1.2.2.5-2 presents a semi-annual sample taken in July 1984. Included in this table are thiocyanate analyses which are currently in the NPDES sample parameter suite. This parameter is not a permit requirement and is only being analyzed to establish a baseline.

As noted in the regular monthly reports to the State Department of Health (APCD), the high values of mercury are apparently attributable to a broken mercury thermometer in the field lab.

CB-TRACT
NPDES WATER QUALITY SAMPLES
WEEKLY ANALYSIS

TABLE 1.2.2.5-1

LOC	YR	MO	DY	LAB TOTL SUSS SOLIDS (MG/L)	TOTAL DISSOLVED SOLIDS (MG/L)	TOTAL F (MG/L)	TOTAL B (MG/L)	AMMONIA AS N (MG/L)	AL (MG/L)	TOTAL FE (MG/L)	OIL AND GREASE (MG/L)	TOTAL CD (MG/L)	TOTAL CU (MG/L)	TOTAL HG (MG/L)	TOTAL AG (MG/L)
WN40	84	6	7	44.0	1900.0	19.00	.60	-.04	-.1	-.10	-10	-.01	-.02	-.00020	-.01
			13	-10.0	1400.0	20.00	.70	-.04	-.1	.05	-10	-.01	-.02	-.00020	-.01
			20	-10.0	1400.0	23.00	.70	-.04	-.1	.04	-10	-.01	.07	-.00020	-.01
			27	-10.0	1400.0	22.00	.60	-.04	-.1	.05	-10	-.01	.04	-.00020	-.01
		7	2	-10.0	1400.0	24.00	.70	-.10	-.5	-.01	-10	.01		-.00010	
			10	-10.0	1400.0	23.00	.60	.10	-.5	.08	-10	.01		.00010	
			11				.06			.06			.01	.00020	
			17	-10.0	1400.0	22.00	.60	-.10	-.5	.06	-10	.01		.00010	
			24	-10.0	1400.0	22.00	.60	.10			-10				
		8	1	-10.0	1400.0	22.00	.80	.10	-.5	.06	-10			.00020	
			9	-10.0	1400.0	21.00	.80	-.10	-.5	.20	-10	.01	.01	-.00010	
			15	-10.0	1400.0	20.00	.70	-.10	-.5	.10	-10		.01	-.00010	
			21	-10.0	1400.0	18.80	.70	-.10	-.5	.34	-10		.01	-.00010	
			29	-10.0	1300.0	19.40	.80	-.10	-.5	.06	-10		.01	.00020	
		9	5	-10.0	1400.0	21.00	.70	-.10	-.5	.04	-10			-.00010	
			12	-10.0	1400.0	20.00	.70	-.10	-.5	.05	-10			-.00500	
			20	-10.0	1400.0	21.00	.80	-.10	.7	.08	-10			-.00010	
			26	-10.0	1400.0	21.00	.80	-.10		.05	-10			.00020	
		10	3	-10.0	1400.0	21.00	.60	-.10	-.5	.16	-10	.01		-.00010	
			10	-10.0	1400.0	21.00	.70	-.10	-.5	.06	-10	.01		-.00010	
			17	-10.0	1400.0	22.00	.70	-.10	-.5	.22	-10		.01	.00010	
			24	-10.0	1400.0	22.00	.60	-.10	-.5	.07	-10	.03	.01	.00020	
			31	-10.0	1400.0	22.00	.65	-.10	-.5	.04	-10	.01		.00040	
		11	7	-10.0	1400.0	22.00	.70	-.10	-.5	.06	-10	.01	.01	.00020	
			23	7.0	1400.0	21.00	.70	-.10	-.5	.06	2	.01	.01	-.00005	
			28	-5.0	1300.0	21.00	.70	-.10	-.5	.06	2	.04	.01	-.00005	
WN51	84	8	1	1000.0	140.0	.40	-.10	-.10	-.5	48.00	-10	.01	.04	.00010	.01
			16	1800.0	320.0	.50	-.10	-.10	-.5	80.00	-10	.01	.07	.00010	.01
WN53	84	8	1	2100.0	110.0	.50	-.10	-.10	-.5	88.00	-10	.01	.08	-.00010	.01
WN55	84	8	1	1900.0	120.0	.40	-.10	-.10	-.5	95.00	-10	.01	.07	.00010	
WP61	84	8	16	2000.0		.50									

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.5-2

NPDES SEMI ANNUAL SAMPLE
WATER QUALITY (PCI/L)

LOC	YR	MO	TOTAL ALPHA	TOTAL BETA	TOTAL RADIUM 226	TOTAL URANIUM	COD	THIOCYANATE
WN40	84	7	1.0	-2.0	.6		30.0	
		8						-1.00
								-1.00
								-1.00
								-1.00
		9						-1.00
								-1.00
								-1.00
								-1.00
		10						-1.00
								-1.00
								-1.00
								-1.00
								-1.00
		11						-1.00
								.50
								.50

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.5-2 (Cont'd)

NPDES SEMI ANNUAL SAMPLE
WATER QUALITY (MG/L)

LOC	YR	MO	TOTAL DISSOLVED SOLIDS	FLUORIDE	BORON	AMMONIA AS N	PHENOL	OIL AND GREASE	KJELDAHL	CYANIDE	SELENIUM	SUSPENDED SOLIDS	DOC
WN40	84	7	1400.0	24.00	.90	-.100	-.0020	-10.0		-.005	-.005	-10.0	4.0
		8											
		9											
		10											
		11											

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.5-2 (Cont'd)

NPDES SEMI ANNUAL SAMPLE
WATER QUALITY (MG/L)

LOC	YR	MO	TOTAL ALKALINITY	BROMIDE	CARBONATE	CALCIUM	NITRATE	SULFATE	MAGNESIUM	BICARBONATE	SILICA
WN40	84	7	1200.0	-.050	100.0		-1.00	30.0	5.0	1100.0	12.0
		8									
		9									
		10									
		11									

NOTE: - INDICATES LESS THAN

SHAFT AND
MINE WATER

1.2.2.6 Shaft and Mine Water

No samples were collected in shafts during this report period, June through November 1984.

SHALE DUMPS

1.2.2.7 Shale Dumps

Collection of precipitation leaching through the raw and spent shale piles is currently being analyzed by CB personnel. These analyses were run by Colorado State University staff, with EPA funding the program. Funding has since been discontinued in 1984 with CB continuing the program. Lab analyses are reported in Table 1.2.2.7-1.

Station locations are shown in Section 1.2.1.7 on Figure 1.2.1.7-1.

TABLE 1.2.2.7-1

CB-TRACT
RAW AND SPENT SHALE PILES

LOC	YR	MO	DY	MO (MG/L)	NO3 (MG/L)	OIL AND GREASE (MG/L)	PHEN (MG/L)	K (MG/L)	B (MG/L)	TOTAL DISS SOLIDS (MG/L)	SR (MG/L)	SO4 (MG/L)	CL (MG/L)	COD (MG/L)	CR (MG/L)	CU (MG/L)
WR00	84	6	7	.100	8.90		-.0100	110.0	2.00	21000.0	3.2	9000.0	340.0		.030	.500
			11	.100	16.00		-.0100	100.0	2.10	6900.0	2.3	9000.0	180.0		.020	.050
WR10	84	6	7	.090	11.00			4.5	-.10	4100.0	3.9	2500.0	7.0			-.020
			11	.090	7.80			4.9	.10	5100.0	3.8	3100.0	8.0			-.020
WR15	84	6	7	.090	7.20			3.4	-.10	4200.0	4.0	2500.0	8.0			-.020
			11	.090	5.60			4.1	.10	5100.0	4.1	3200.0	6.0			-.020
WR20	84	6	7	.090	12.00			6.4	.10	2400.0	4.2	1400.0	5.0			-.020
			11	.090	24.00			8.2	.30	4500.0	4.1	2900.0	4.0			-.020

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.7-1 (Cont'd)

CB-TRACT
RAW AND SPENT SHALE PILES

LOC	YR	MO	DY	SIO2 (MG/L)	CN (MG/L)	TOTAL PHOSPHATE (MG/L)	N KJELD. (MG/L)	HG (MG/L)	SE (MG/L)	AG (MG/L)	ZN (MG/L)	PB (MG/L)	LI (MG/L)	MN (MG/L)	FE (MG/L)	F (MG/L)
WR00	84	6	7	.1				-.00020	.100	.020	.100	-.020	.10	.050	.10	4.90
			11	2.8				-.00020	.100	.020	.100	-.020	.10	.020	.07	3.40
WR10	84	6	7	.2							.100			-.020	.02	4.00
			11	.2							.100			.020	.02	5.80
WR15	84	6	7	.2							.100			.020	.02	7.70
			11	.2							.100			.020	.03	6.70
WR20	84	6	7	.1							.020			.020	-.02	3.60
			11	4.7							.100			.020	-.02	3.60

NOTE: - INDICATES LESS THAN

TABLE 1.2.2.7-1 (Cont'd)

CB-TRACT
RAW AND SPENT SHALE PILES

LOC	YR	MO	DY	TOTAL ALK (MG/L CACO3)	AL MG/L)	AMMONIA AS N (MG/L)	AS (MG/L)	BA (MG/L)	HCO3 (MG/L CACO3)	CO3 (MG/L CACO3)	BR (MG/L)	HARDNESS (MG/L CACO3)	NA (MG/L)	MG (MG/L)	CA (MG/L)
WR00	84	6	7	790.0	-.100	-.040	.060	1.90	740.0	-1.0			7100.0	470.0	190.0
			11	750.0	-.100	.080	-.020	1.10	730.0	12.0		120.0	5000.0	460.0	
WR10	84	6	7	95.0	-.100				92.0	3.0			450.0	110.0	230.0
			11	110.0	-.100				100.0	10.0			630.0	290.0	360.0
WR15	84	6	7	94.0	-.100				91.0	3.0			410.0	300.0	400.0
			11	110.0	-.100				100.0	10.0			460.0	350.0	360.0
WR20	84	6	7	88.0	-.100				85.0	3.0			310.0	99.0	120.0
			11	94.0	-.100				91.0	3.0		280.0	620.0	250.0	

NOTE: - INDICATES LESS THAN

1.2.2.8 Supplemental Water Data - Water Quality

This section contains cyanide results of water samples taken at bedrock wells WD20, WX44 and WY45 not previously reported. Data tables of these samples are reported in Table 1.2.2.8-1.

TABLE 1.2.2.8-1

C-B TRACT BEDROCK WELL WATER QUALITY RESULTS
WATER QUALITY (MG/L)

LOC	YR	MO	DY	CYANIDE
WD20	82	12	14	-.005
WX44	82	12	13	-.005
WY45	82	12	13	-.005

NOTE: - INDICATES LESS THAN